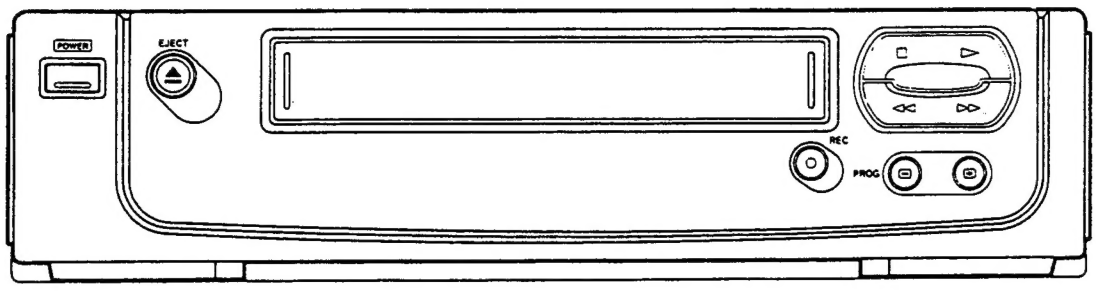
Roadstar
AUDIO-VIDEO

SERVICE MANUAL

[redacted]

+ ALBA

VCR 7272 / 7474



VHS
PAL

HQ
High Quality

SPECIFICATIONS

SYSTEM

Video signal	PAL standard colour PAL/SECAM
Channel coverage	VHF Channel 2-12 UHF Channel 21-69 CATV Channel S1-S20, X,YZ,or S_1-S41,X,Y,Z
channel memory	40 positions
VHF output signal	30-39 CH (adjustable) 73±3dBuV

VIDEO

Input: Video line in	SCART-type connector 1.0Vp-p 75 ohms unbalanced, sync. negative
Output: Video line out	CART-type connector 1.0Vp-p 75 ohms unbalanced, sync. negative
Signal to noise ratio	More than 43dB (SP)
Horizontal resolution	230 lines

AUDIO

Input: Audio Line in	SCART-type connector more than 50K ohms, –8 dBm, unbalanced
Output: Audio line out	SCART-type connector more than 1K ohms, –6 dBm, unbalanced
Frequency response	100 Hz-8KHz
Signal to noise ratio	More than 38 dB
Audio Distortion	Less than 3% (SP)

TAPE TRANSPORT

Tape width	12.65mm (1/2")
Tape speed	23.39mm/sec
Maximum recording time	180 min, with E-180 tape (EP)
FF. REW time	Approx 4 min (E-180)

GENERAL

Power requirements	AC 230V 50Hz
Power consumption	17W

DIMENSIONS

Set size (WxHxD)	360x90x312 mm
Carton size (WxHxD)	445x180x412 mm
Weight (gross)	5.4Kg

• Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) See table below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metalic parts. See table below.

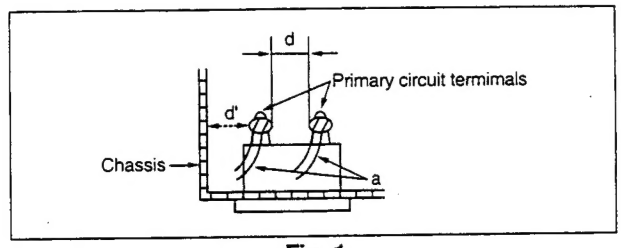


Fig. 1

Table 1: Rating for selected areas

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance (d), (d')
100V	Japan	≥ 1 MΩ/500 V DC	1kV 1 minute	≥ 3 mm
110 to 130V	USA & Canada	---	900V 1 minute	≥ 3.2mm
* 110 to 130 V 200 to 240 V	Europe Australia	≥ 10 MΩ/500 V DC	4 kV 1 minute	≥ 6 mm (d) ≥ 8 mm (d') (a: Power cord)

* Class II model only.
Note: This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

4. **Leakage current test**
   Confirm specified or lower leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.)

   Measuring Method: (Power ON)
   Insert load Z between B (earth ground, power cord plug prongs) and exposed accesible parts. Use and AC voltmeter to measure across both terminals of load Z. See figure and following table.

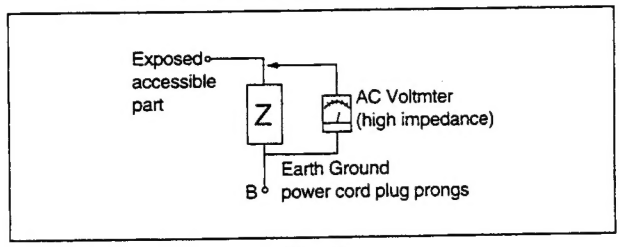


Fig. 2

Table 2: Leakage current ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
100V	Japan	1kΩ	i ≤ 1m A rms	Exposed accessible parts
110 to 130 V	USA &	1.5kμF, 1.5kΩ	i ≤ 0.5 m A rms	Exposed accessible parts
110 to 130 V 200 to 240 V	Europe Australia	2kΩ	i ≤ 0.7 m A peak i ≤ 2 m A dc	Antenna earth terminals
		50kΩ	i ≤ 0.7 m A peak i ≤ 2 m A dc	Other terminals

Note: This table unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality

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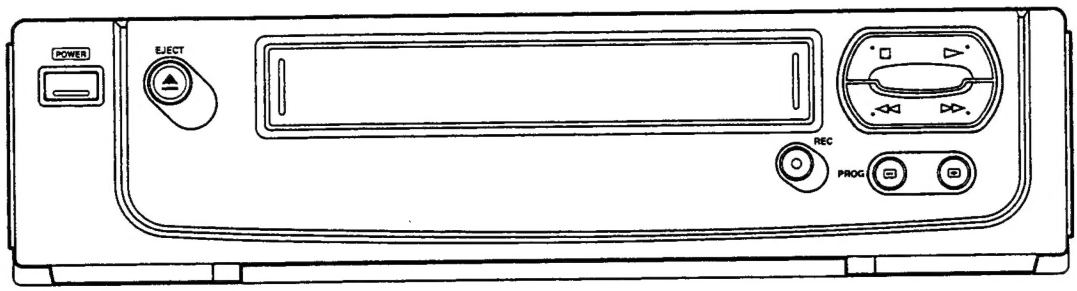
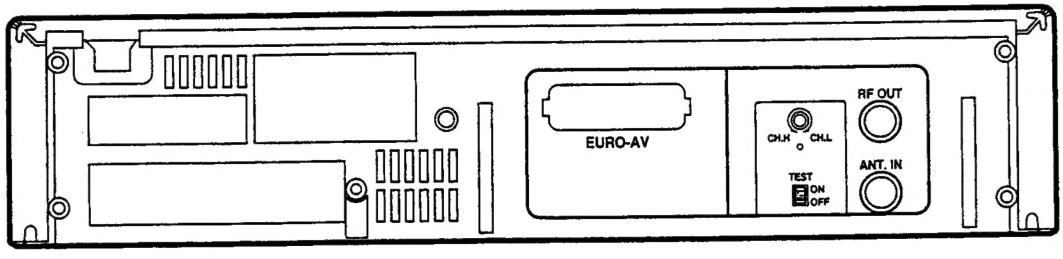
SECTION 1. CONTROLS AND FUNCTIONS

FRONT



REAR



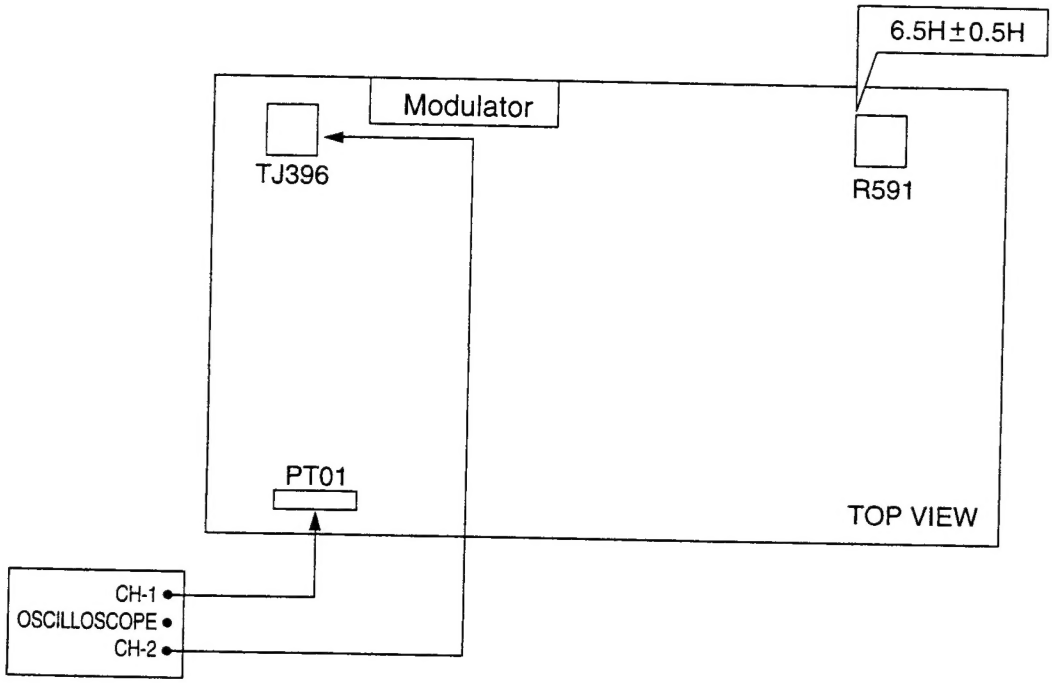
SECTION 2. ELECTRICAL ADJUSTMENT

2-1. SERVO CIRCUIT ADJUSTMENT METHOD

1. PLAYBACK PHASE

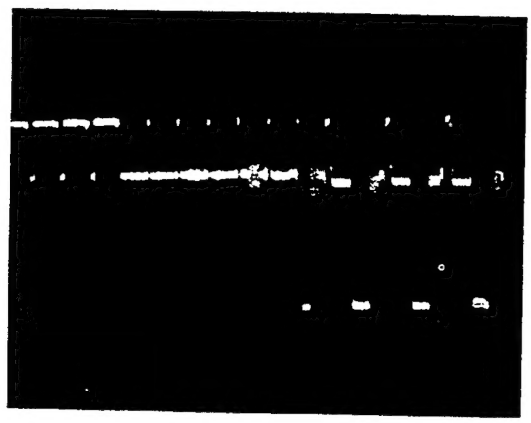
Adj. Location	Checking Point	Measuring Equipment	Mode	Test Tape
R591	TJ396 PT01 PIN ③	Oscilloscope	Play	DP-2

• **Connection Method**



• **Adjustment Procedure**

1) Play back the test tape.(DP-2)
2) Set the oscilloscope to the CHOP mode. Connect CH1 to the SW PULSE (PT01 PIN ③).
3) Adjust R591 to positive the rising edge of SW PULSE at 6.5H ± 0.5H from the V-SYNC

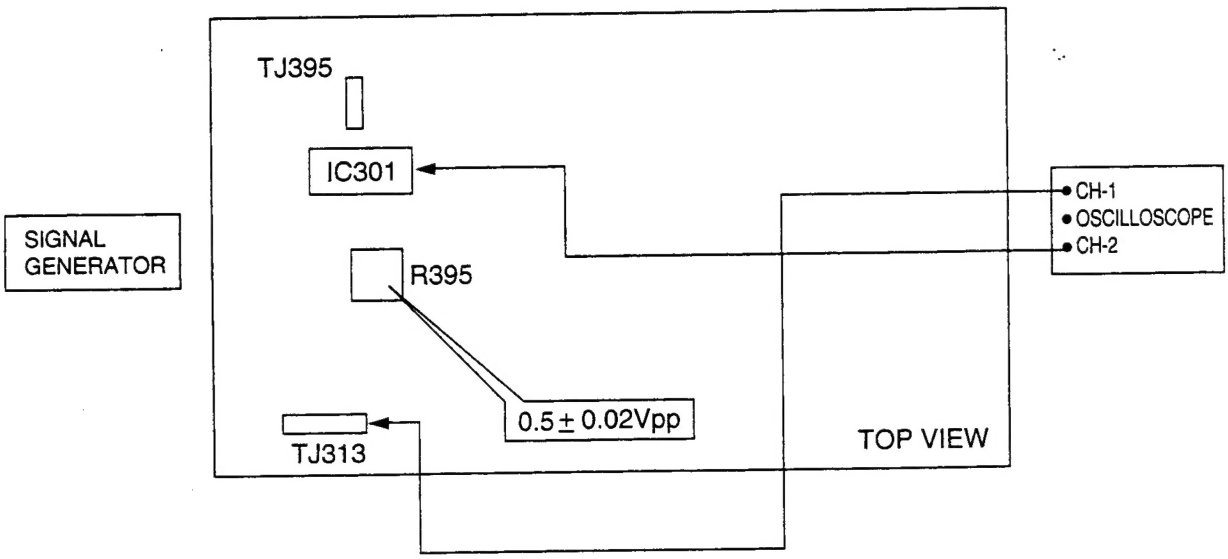


2-2. VIDEO CIRCUIT ADJUSTMENT MENT METHOD

1. EE LEVEL

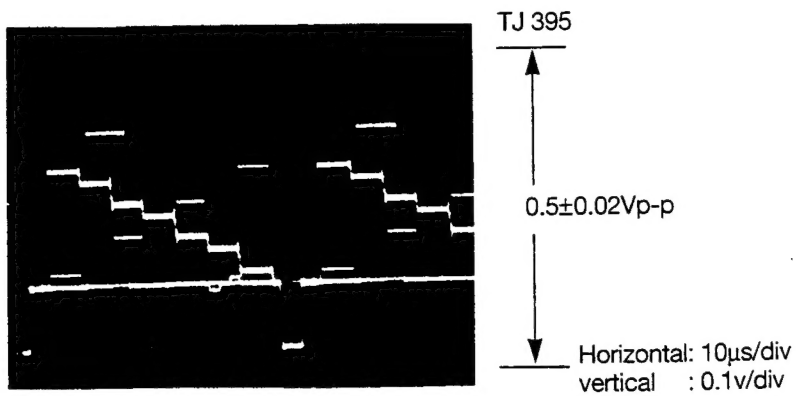
Adj. Location	Checking Point	Measuring Equipment	Mode	Test Tape
R395	TJ313 TJ395	Signal Gen, Oscilloscope	-	Color Bar With 100% White

• Connection Method



• Adjustment Procedure

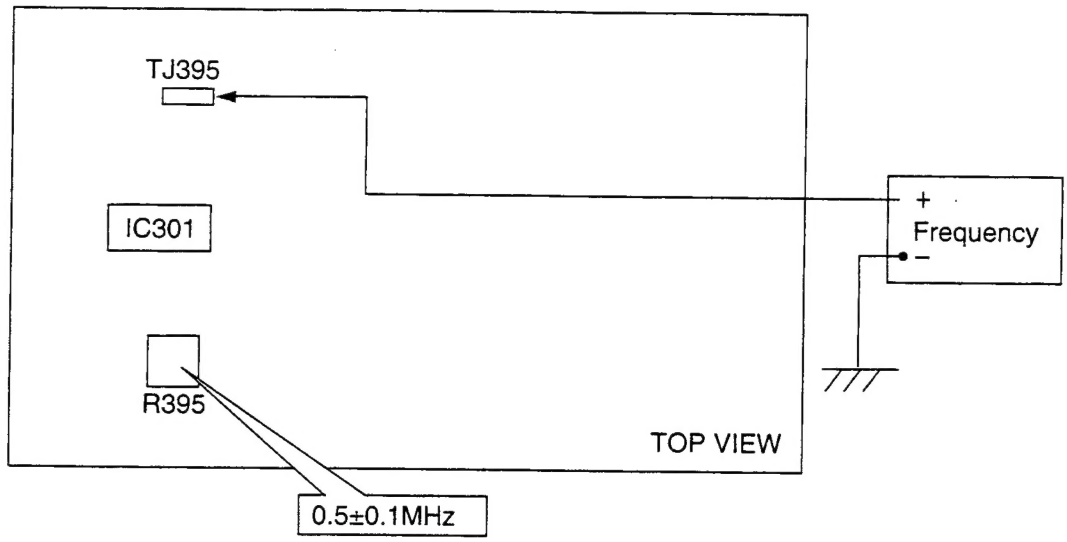
1) Set the TV/LINE to LINE mode.
2) Supply the Color bar signal with 100% white to the VIDEO IN TERMINAL.
3) Set the VCR to the STOP mode.
4) Connect the oscilloscope to TJ395 and trigger the scope externally with the composite synchronous signal from TJ313
5) Adjust R395 to obtain 0.5 ± 0.02Vp-p between the SYNC TIP a 100% white level.



2. SYNC TIP FREQUENCY

Adj. Location	Checking Point	Measuring Equipment	Test Tape	Input Signal
R391	TJ391	Frequency Counter	–	–

• **Connection Method**



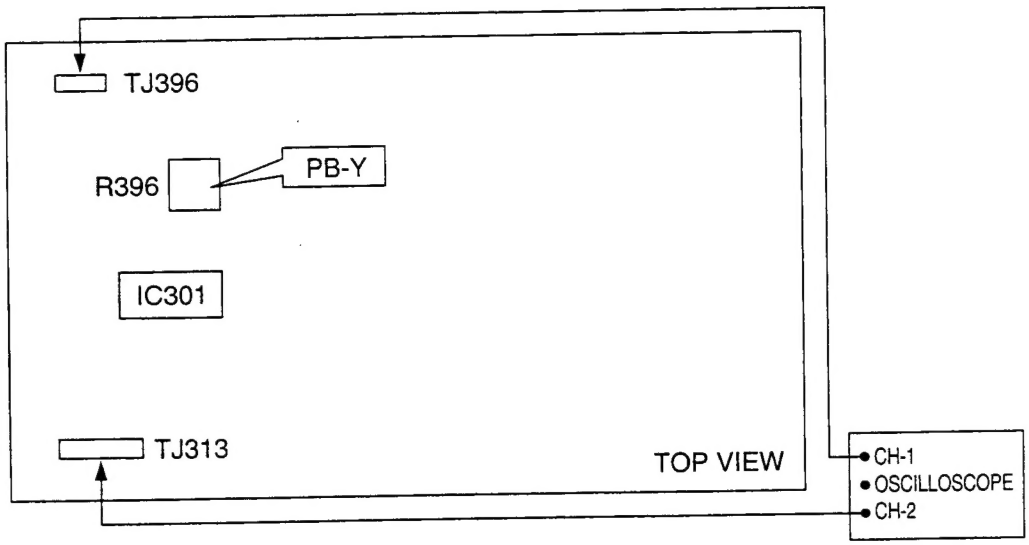
• **Adjustment Procedure**

1) Set the TV/LINE to LINE mode.
2) Supply the input signal in the OPEN state.
3) Set the VCR to STOP mode.
4) Connect the Frequency counter to TJ391
5) Adjust R391 to obtain 3.73±0.1MHz

3. PLAYBACK OUTPUT LEVEL

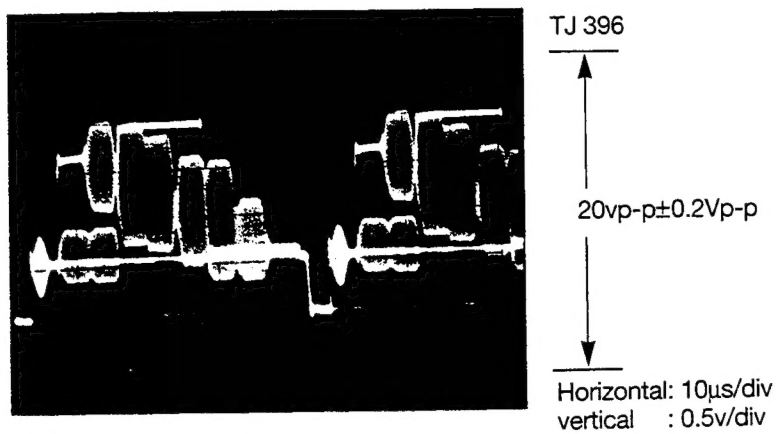
Adjustment Parts	Checking Point	Measuring Equipment	Test Tape	Input Signal
R396	TJ396, TJ313	Oscilloscope	DP-1	– –

• **Connection Method**



• **Adjustment Procedure**

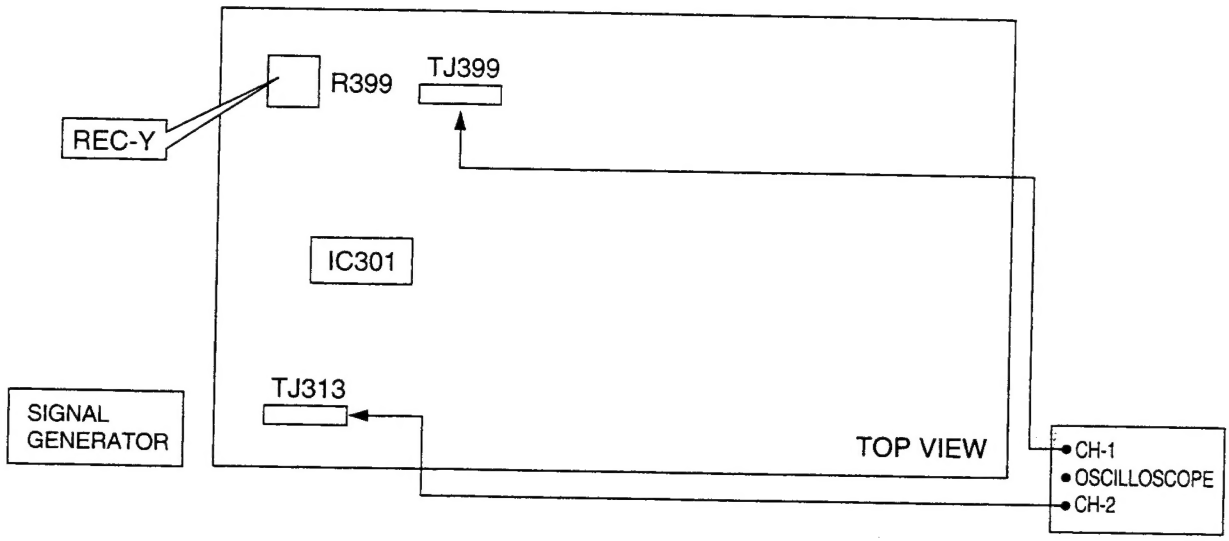
1) Playback the test tape, DP-1 Color Bar
2) Connect the oscilloscope to TJ396 and trigger the scope externally with C.SYNC signal from TJ313
3) Adjust R396 to obtain 2.0V ± 0.1Vp-p between the SYNC TIP and 100% white.



4. LUMINANCE RECORD CURRENT

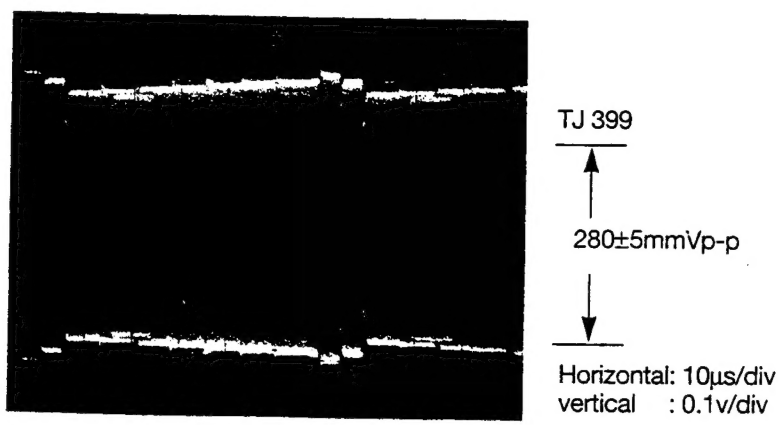
Adjustment Parts	Checking Point	Measuring Equipment	Test Tape	Input Signal
R399	TJ399, TJ313	Signal Gen, Oscilloscope	Blank Tape	Color Bar

• **Connection Method**



• **Adjustment Procedure**

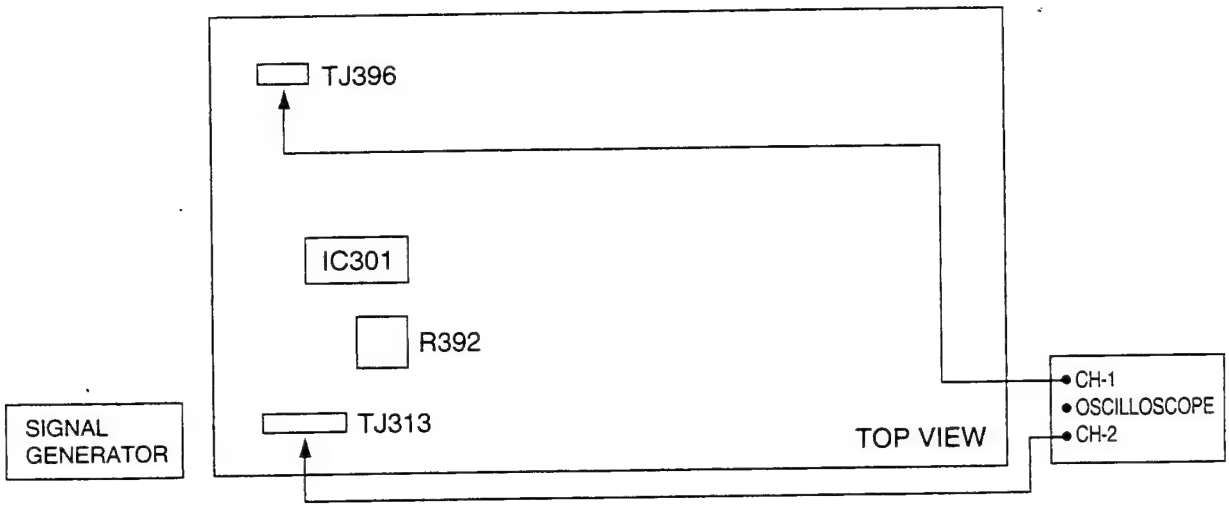
1) Set the TV/LINE to LINE mode.
2) Supply the Color bar signal to the VIDEO IN TEMINAL.
3) Set the VCR to the REC mode.
4) Connect CH-1 of oscilloscope to TJ399 and GND, and trigger the oscilloscope with SYNC signal at TJ313
5) Adjust R399 untill record current became 280 ± 5mVp-p at SYNC TIP of luminance



5. FM DEVIATION

Adjustment Parts	Checking Point	Measuring Equipment	Test Tape	Input Signal
R392	TJ396	Signal Gen, Oscilloscope	Blank Tape	Color Bar

• **Connection Method**



• **Adjustment Procedure**

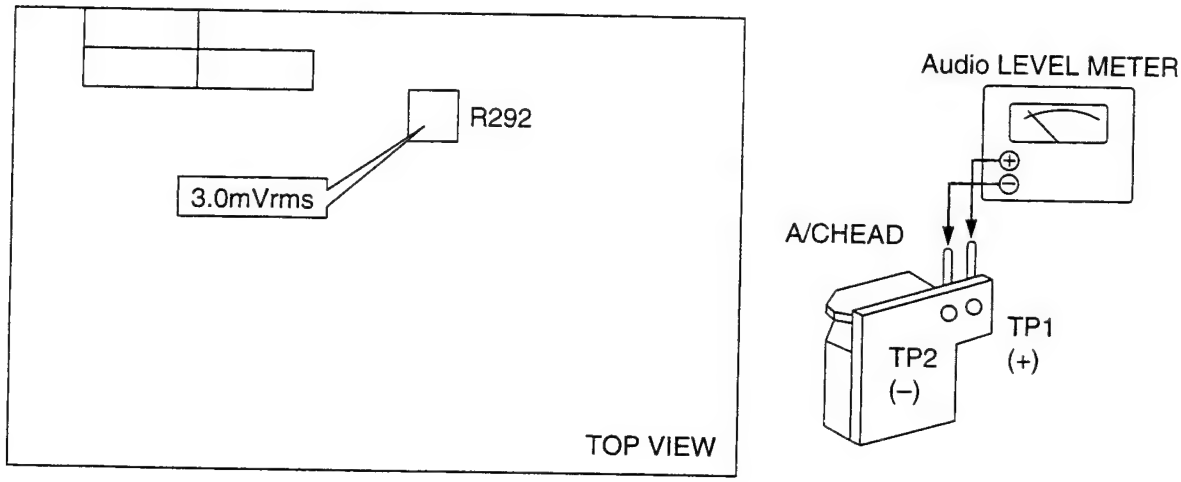
1) Set the TV/LINE to LINE mode.
2) Suply the Color bar signal to the VIDEO IN TERMINAL
3) Record the color bar signal for a few minnute and playback it.
   Then confirm that the playback Y-Signal aut level is 2.0 ± 0.2Vp-p.
4) If the playback level is not 2.0V ± 0.2Vp-p, adjust the following.
5) Turn the R392 a little. Record the color bar signal for a minute, and cofirm the Y-signal output level.
6) Repeat step 1) untill the playback Y-signal level became 2.0V ± 0.2Vp-p between the SYNC TIP and 100% white level.

2-3. AUDIO CIRCUIT ADJUSTMENT METHOD

1. AUDIO RECORD BIAS

Adjustment Parts	Checking Point	Measuring Equipment	Test Tape	Input Signal
R292	A/C Head PCB TP1(+), TP2(-)	Audio level meter	Rec	None signal

• **Connection Method**



• **Adjustment Procedure**

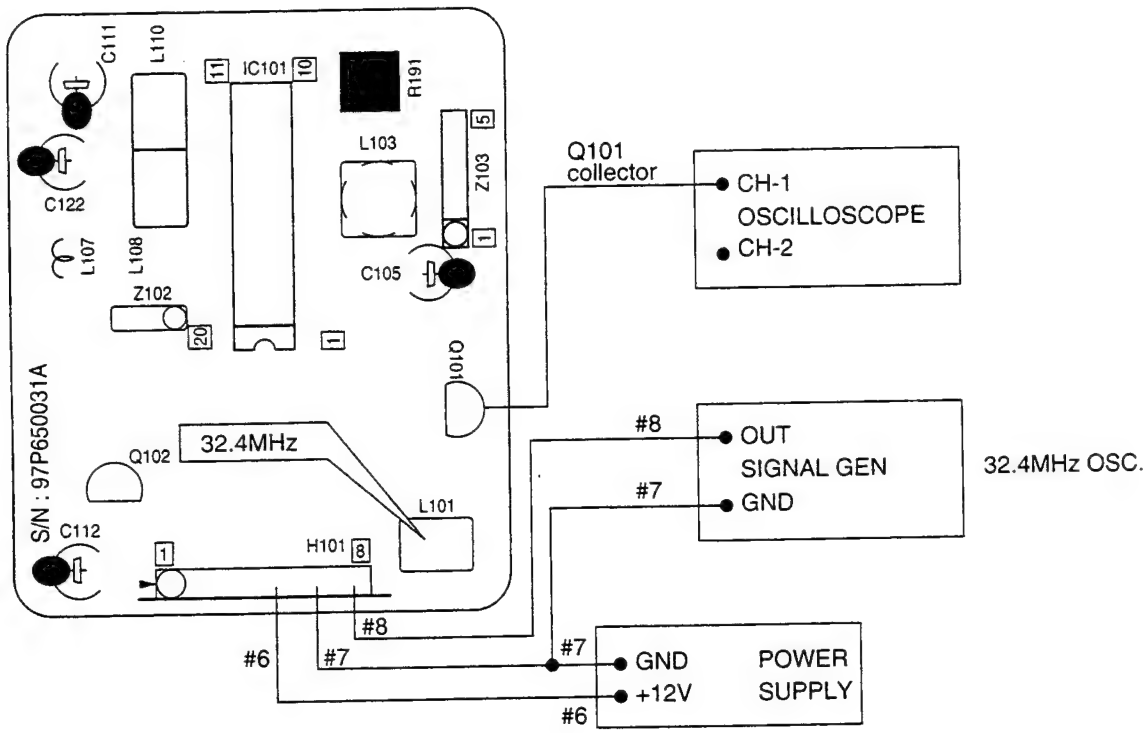
1) Set the TV/LINE to LINE mode.
2) Set the input to open mode
3) Connect the Audio level meter to both TP1 and TP2
4) After inserting a blank tape, record in SP mode.
5) Adjust R292 to obtain 3.0 mVrms.

2-4. IF MODULE CIRCUIT ADJUSTMENT METHOD

1. 32.4 MHZ TRAP

Adj. Location	Checking Point	Measuring Equipment	Input signal
L101	Q101 Collector	Signal gen Oscillo Scope Power supply	Refer to the followings

• Connection Method



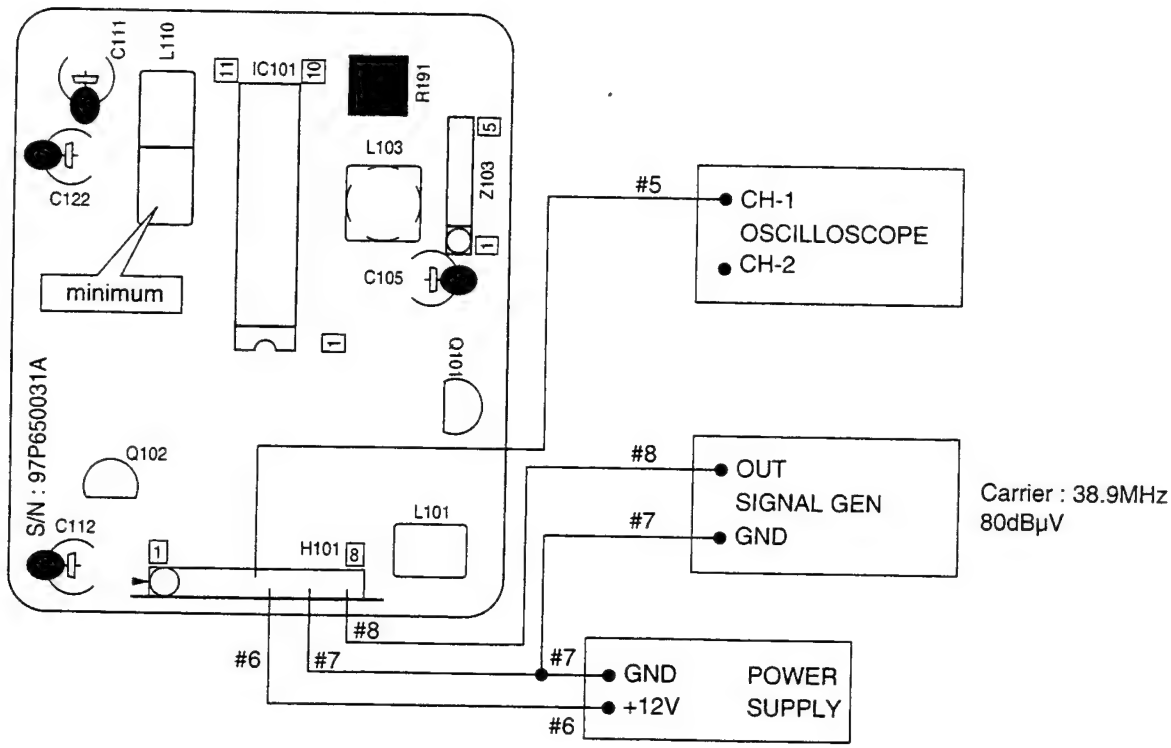
• Adjustment Procedure

1) Supply +12V to PIN ⑥ , and GND to PIN ⑦ of H101
2) Connect the signal generator output to pin⑧ and GND to PIN⑦
3) Connect the Oscilloscope probe to check point
4) Adjust L101 to obtain minimum level of 32.4MHz component at the check point.

2. TANK RESONANT

Adj. Location	Checking Point	Measuring Equipment	Input signal
L109	H101 PIN ⑤	Signal gen Oscillo Scope Power supply	Refer to the followings

• Connection Method



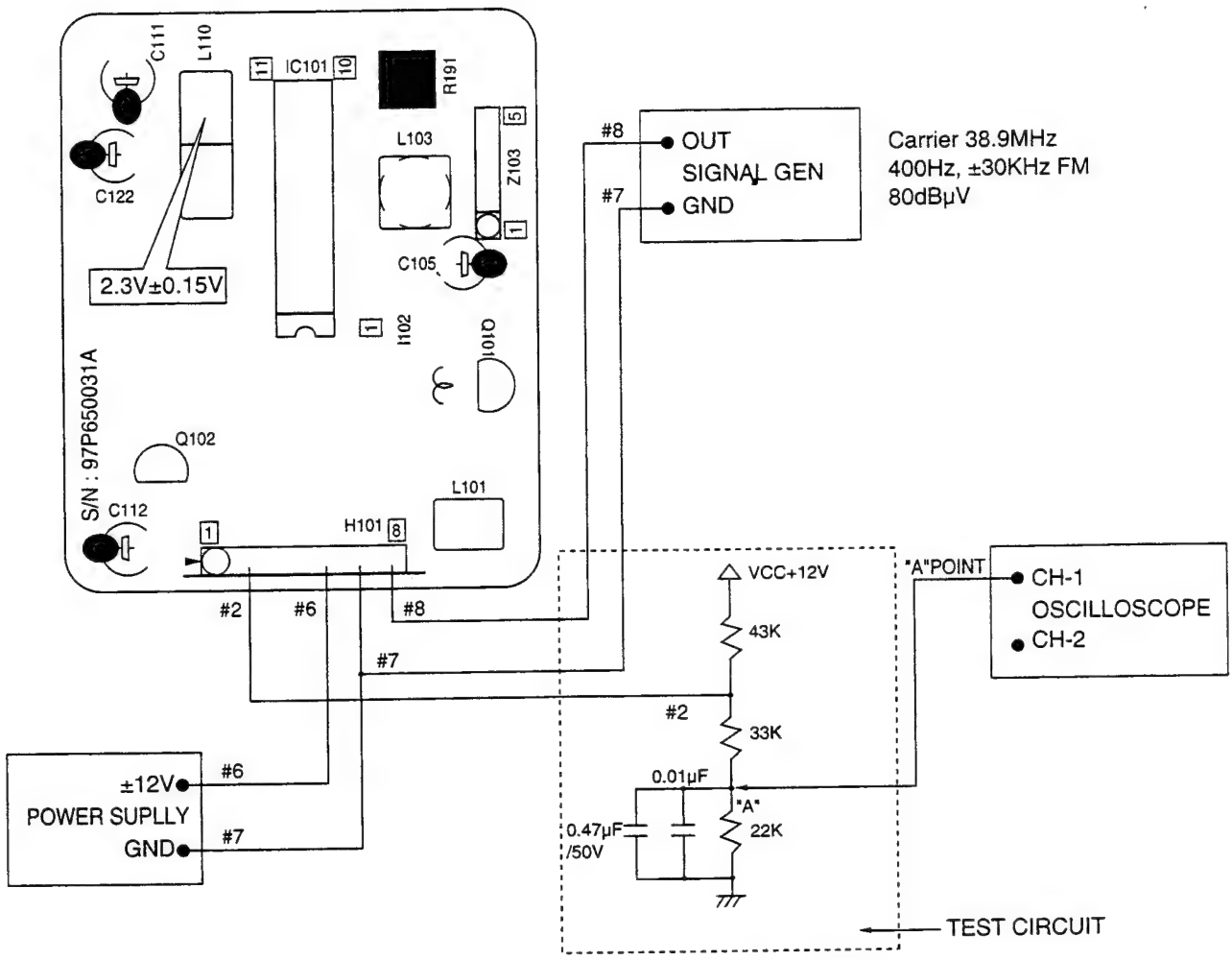
• Adjustment Procedure

1) Supply +12V to PIN ⑥ , and GND to PIN ⑦ of H101
2) Connect the signal generator output to pin⑧ and GND to PIN⑦
3) Connect the Oscilloscope probe to check point
4) Adjust L109 to obtain minimum DC voltage at the check point.

3. AFT COIL

Adj. Location	Checking Point	Measuring Equipment	Input signal
L110	"A" Point	Signal gen Oscillo Scope Power supply	Refer to the followings

• **Connection Method**



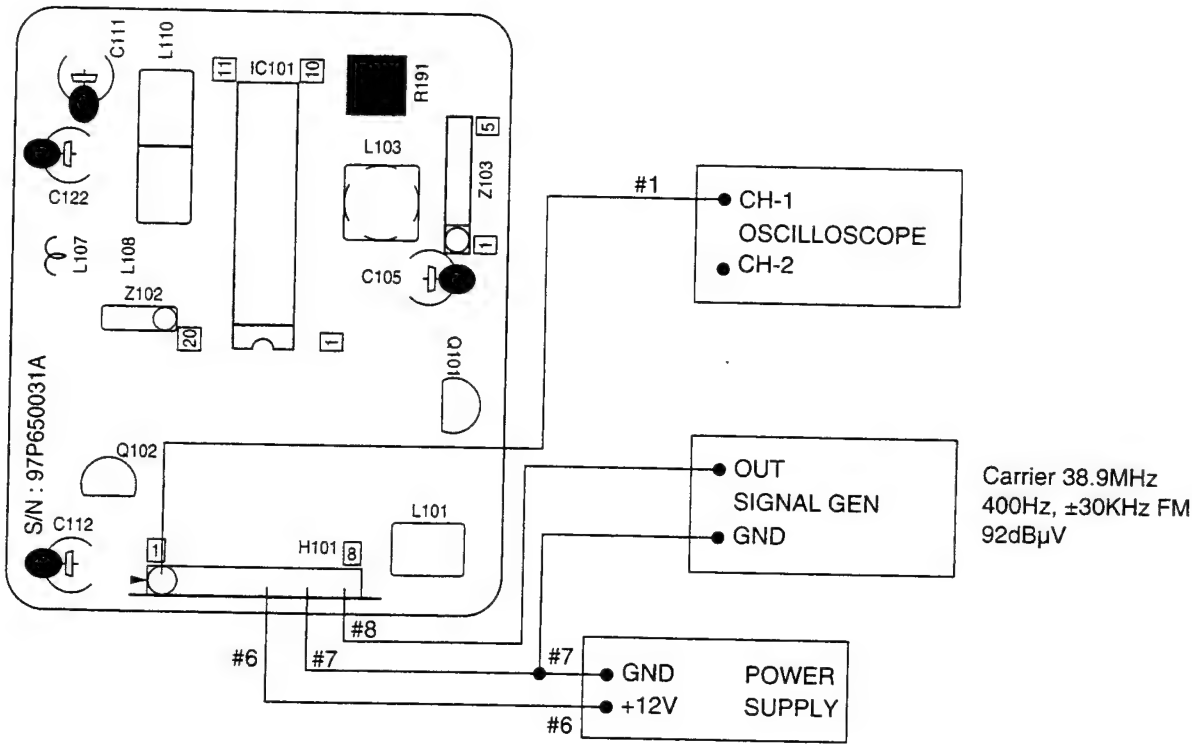
• **Adjustment Procedure**

1) Connect the TEST circuit to PIN ② of H101
2) Supply +12V to pin ⑥ and GND to PIN ⑦ of H101
3) Connect the signal Generator output to PIN ⑧, and GND to PIN ⑦
4) Connect the oscilco scop probe to check point
5) Adjust L110 to obtain 2.3V ± 0.15V DC at "A" point DC Voltage change repidly.

4. RF AGC

Adj. Location	Checking Point	Measuring Equipment	Input signal
R191	H101 PIN ①	Signal gen Oscillo Scope Power supply	Refer to the followings

• **Connection Method**



• **Adjustment Procedure**

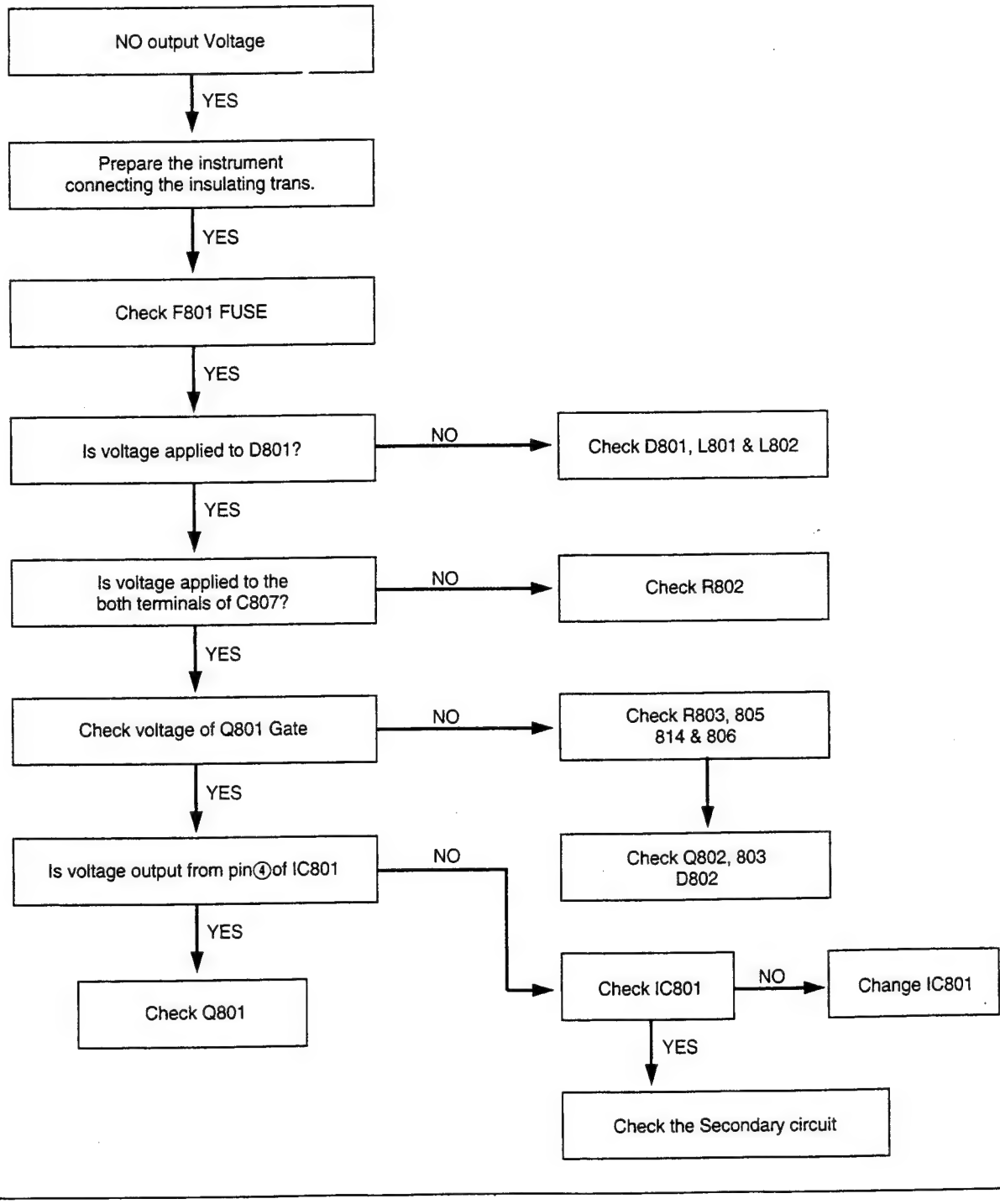
1) Supply +12V to PIN ⑥ , and GND to PIN ⑦ of H101
2) Connect the signal generator output to pin⑧ and GND to PIN⑦
3) Connect the Oscilloscope probe to check point
4) Adjust R191 to obtain 6.0 ± 0.2V DC at check point.

SECTION 3. TROUBLE SHOOTING FLOW CHART

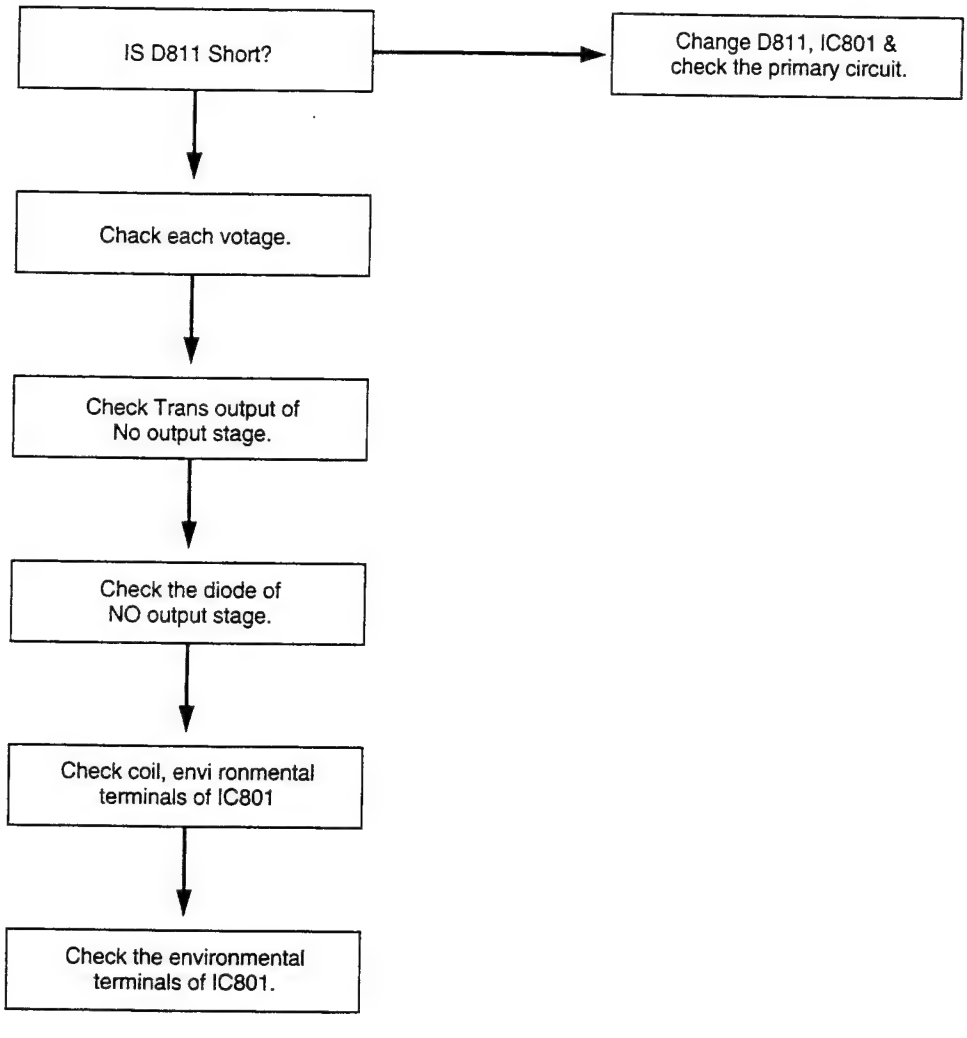
3-1. POWER CIRCUIT

- When change the parts which are out of order, first, remove the power plug from the socket and then discharge the voltage across between both terminals of C807. (Use an external scores of KΩ resistance)
- When check the primary circuit by using the oscilloscopes insulate the oscilloscope surely. (Use the isulating transformer) and must connect GND into the primary GND), (But there is no connection when check the secondary circuit).
- When change IC801, check FUSE and Cement resistance surely.

A. CHECKING THE PRIMARY CIRCUIT.

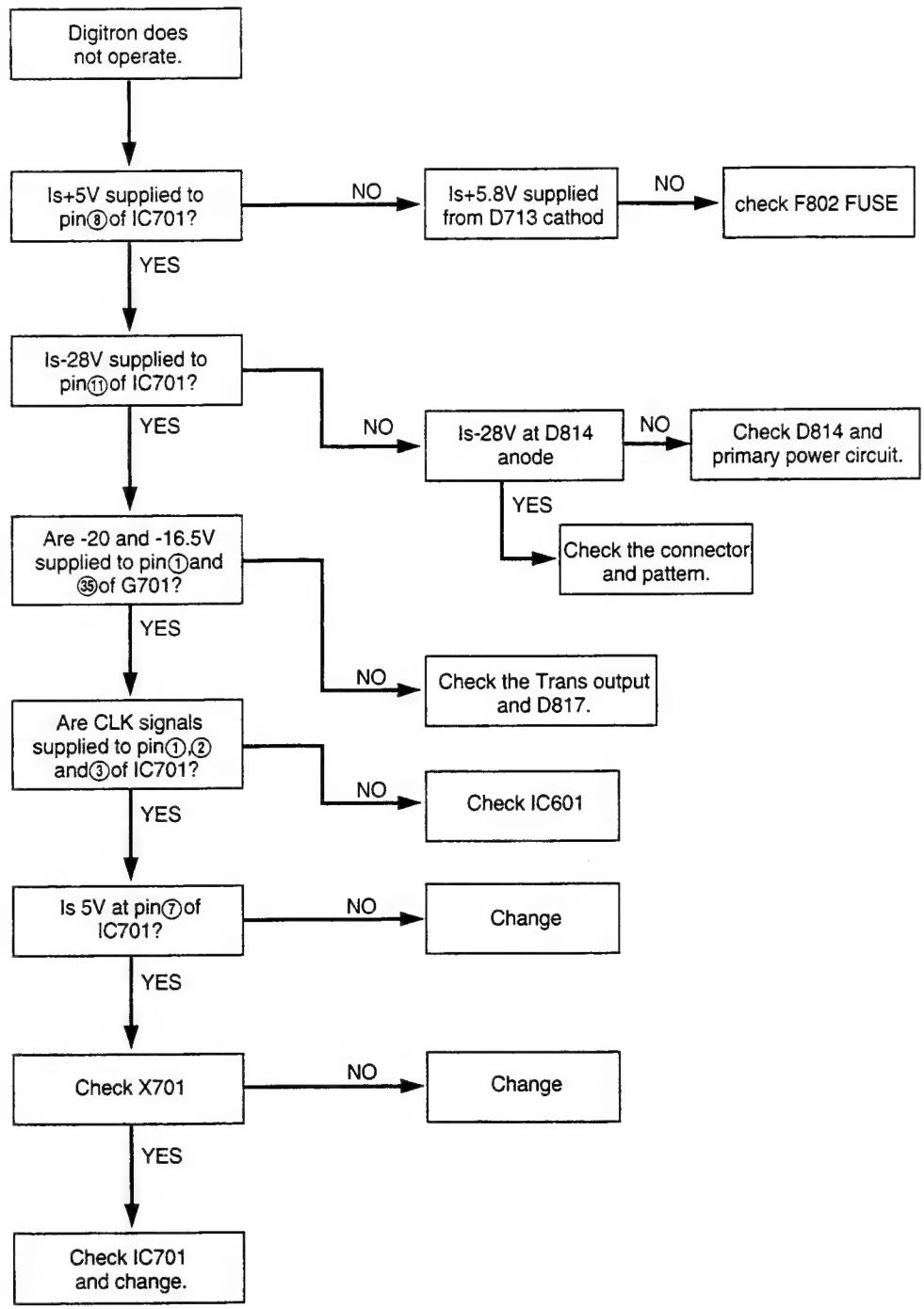


B. CHECKING THE SECONDARY CIRCUIT.

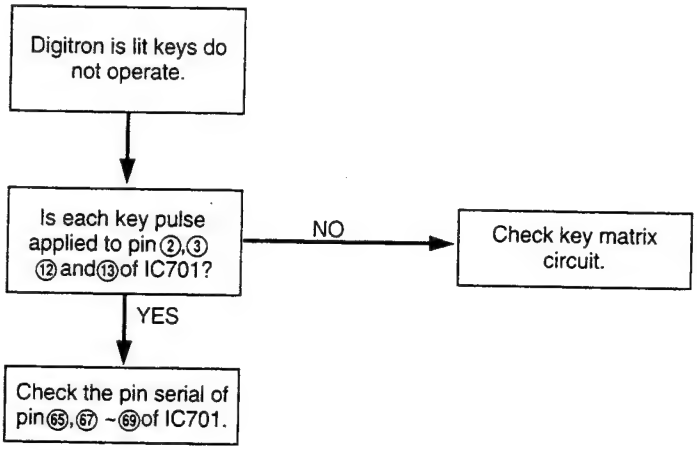


3-2. LOGIC CIRCUIT

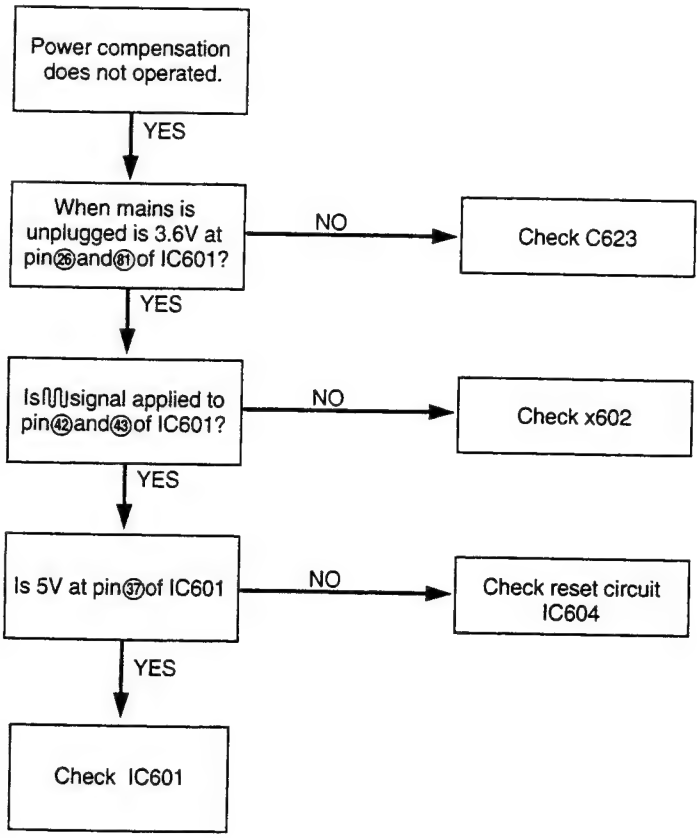
A.



B.

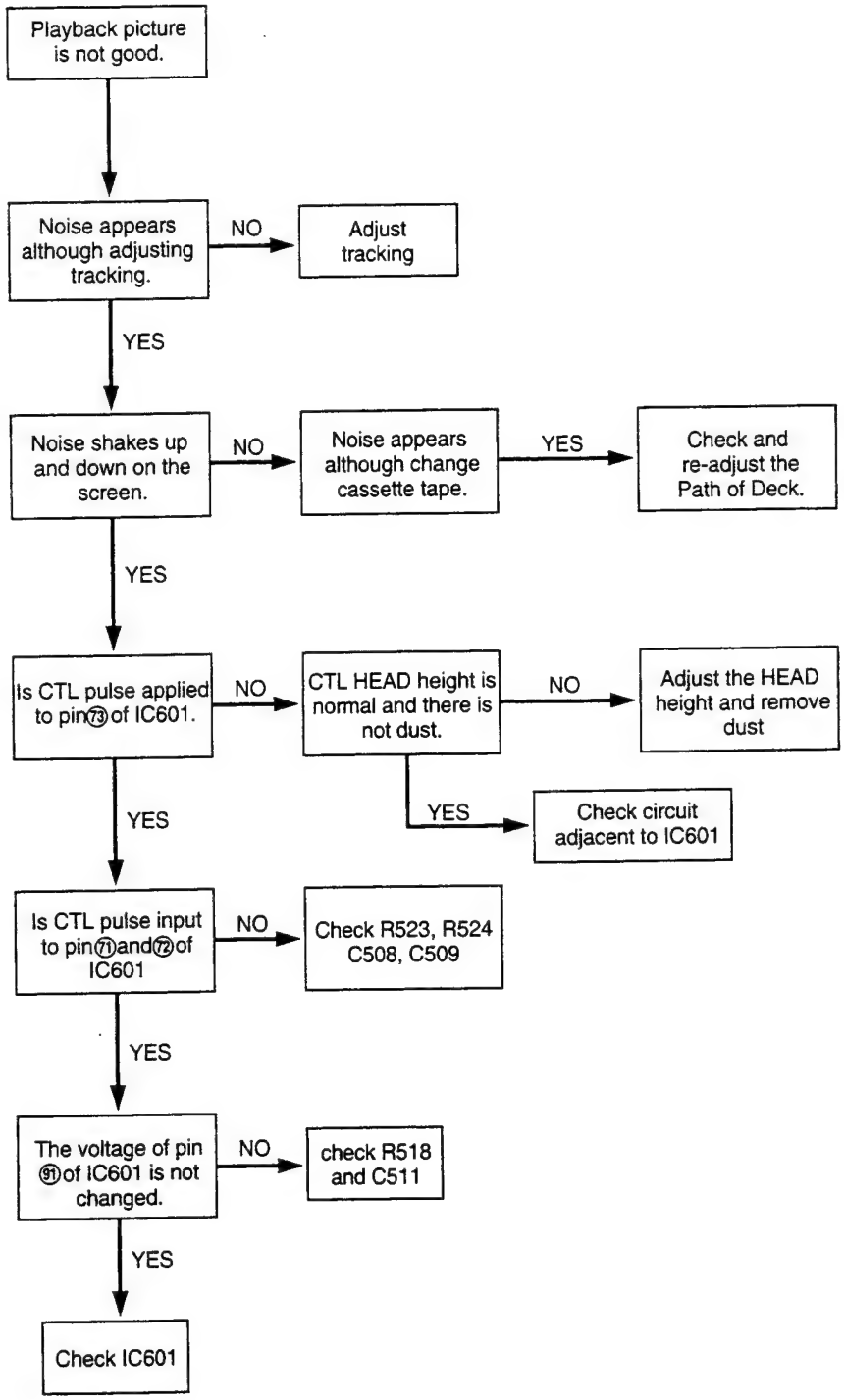

Digitron is lit keys do not operate.
Is each key pulse applied to pin ②,③ ⑫ and ⑬ of IC701?
NO
Check key matrix circuit.
YES
Check the pin serial of pin ⑮, ⑰ ~ ⑲ of IC701.

C.

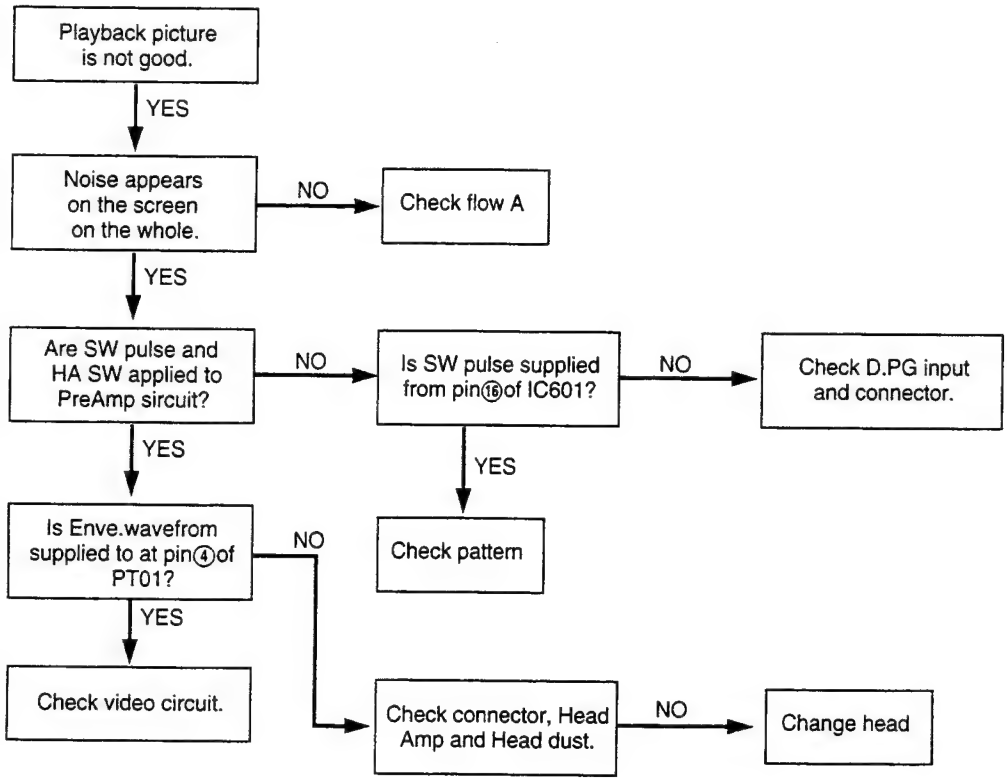

Power compensation does not operated.
YES
When mains is unplugged is 3.6V at pin ㉖ and ㉛ of IC601?
NO
Check C623
YES
Is signal applied to pin ㊷ and ㊸ of IC601?
NO
Check x602
YES
Is 5V at pin ㊲ of IC601
NO
Check reset circuit IC604
YES
Check IC601

3-3. SERVO SYSCON CIRCUIT

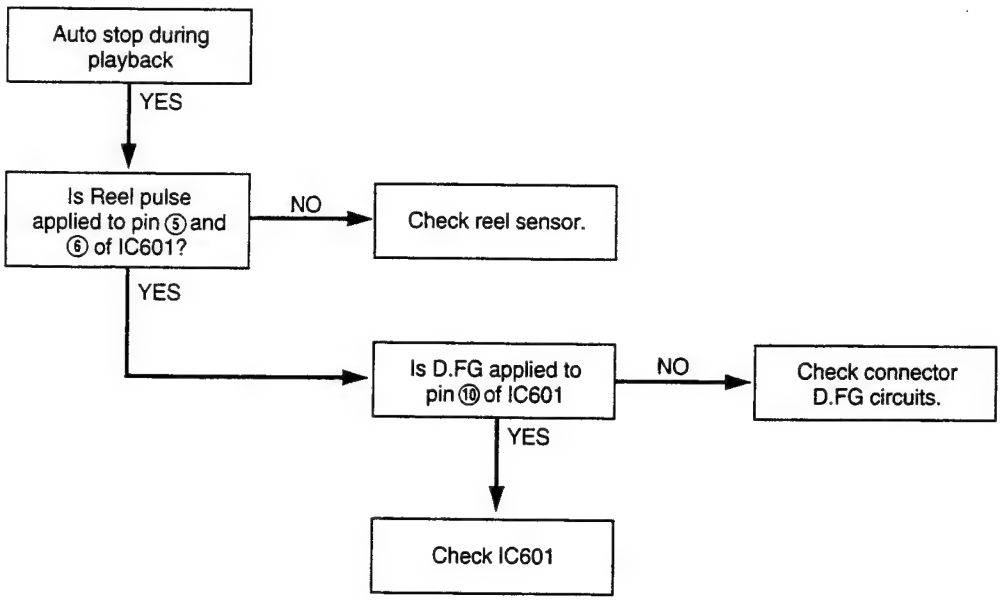
A.



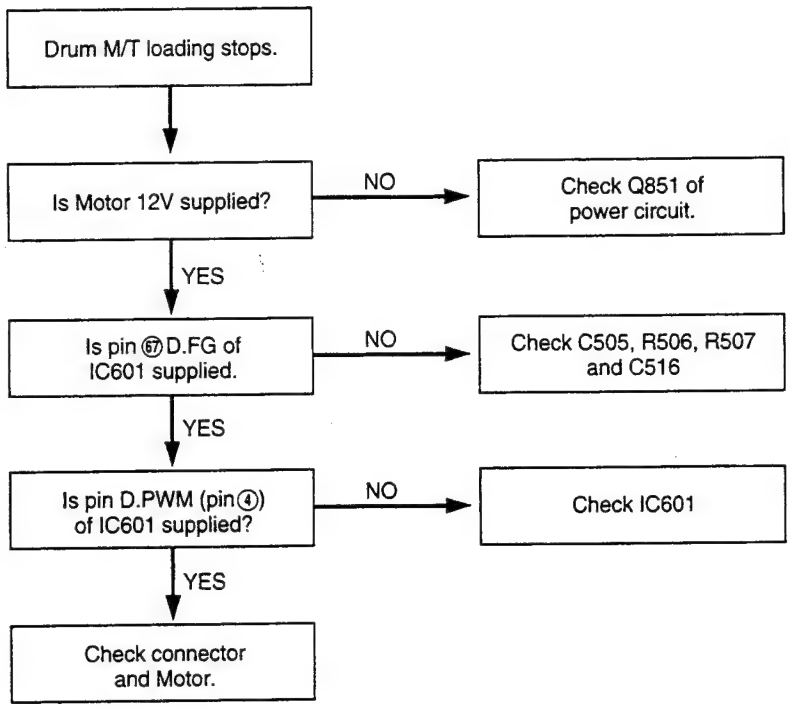
B.


Playback picture is not good.
YES
Noise appears on the screen on the whole.
NO
Check flow A
YES
Are SW pulse and HA SW applied to PreAmp sircuit?
NO
Is SW pulse supplied from pin⑯of IC601?
NO
Check D.PG input and connector.
YES
YES
Check pattern
Is Enve.wavefrom supplied to at pin④of PT01?
NO
YES
Check video circuit.
Check connector, Head Amp and Head dust.
NO
Change head

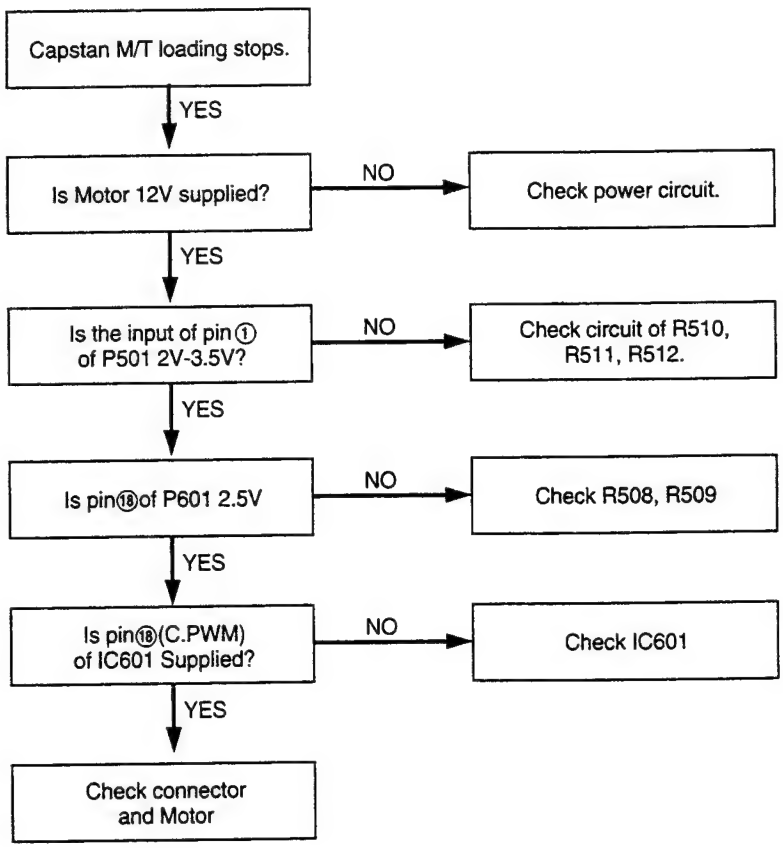
C.


Auto stop during playback
YES
Is Reel pulse applied to pin ⑤ and ⑥ of IC601?
NO
Check reel sensor.
YES
Is D.FG applied to pin ⑩ of IC601
NO
Check connector D.FG circuits.
YES
Check IC601

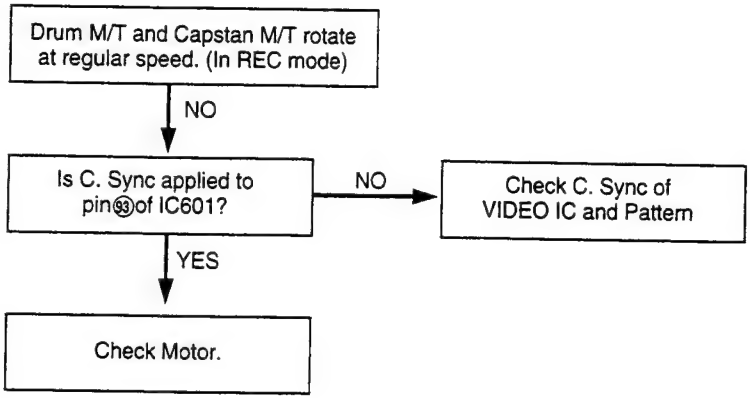
D.


Drum M/T loading stops.
Is Motor 12V supplied?
NO
Check Q851 of power circuit.
YES
Is pin ⑰ D.FG of IC601 supplied.
NO
Check C505, R506, R507 and C516
YES
Is pin D.PWM (pin ④) of IC601 supplied?
NO
Check IC601
YES
Check connector and Motor.

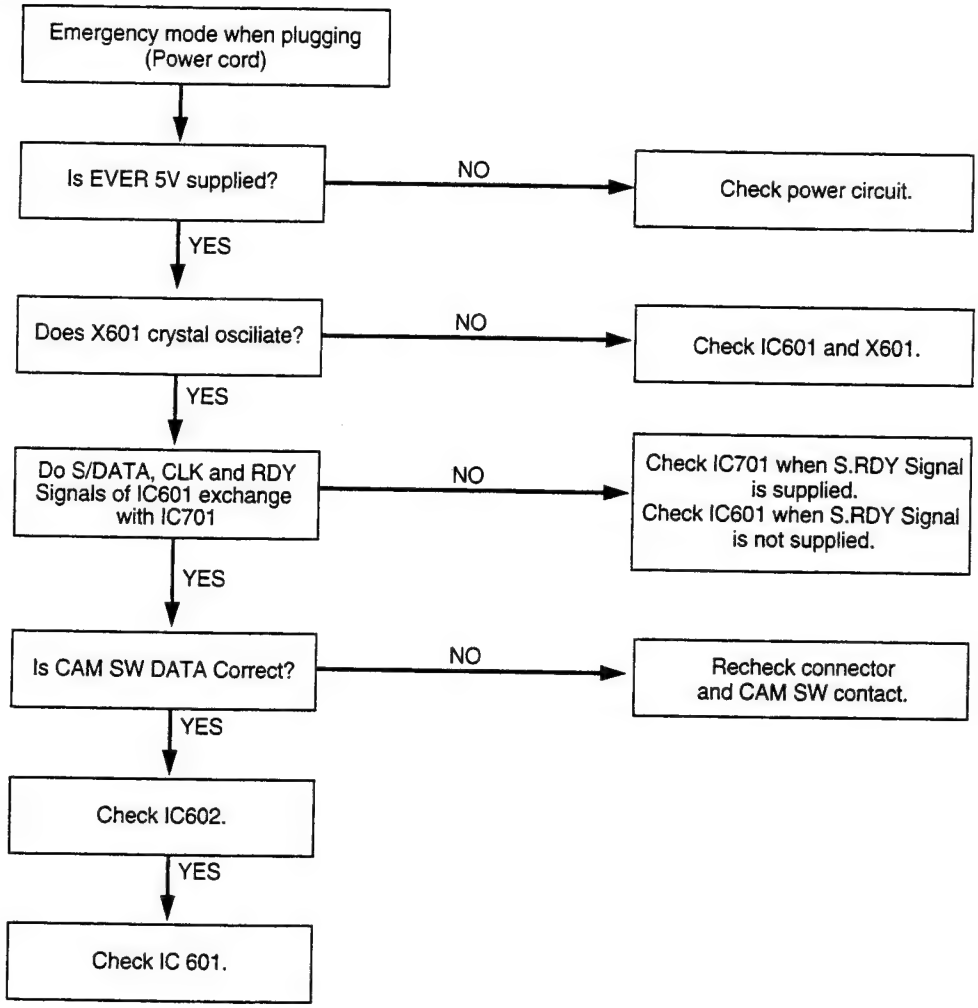
E.


Capstan M/T loading stops.
YES
Is Motor 12V supplied?
NO
Check power circuit.
YES
Is the input of pin ① of P501 2V-3.5V?
NO
Check circuit of R510, R511, R512.
YES
Is pin ⑱ of P601 2.5V
NO
Check R508, R509
YES
Is pin ⑱ (C.PWM) of IC601 Supplied?
NO
Check IC601
YES
Check connector and Motor

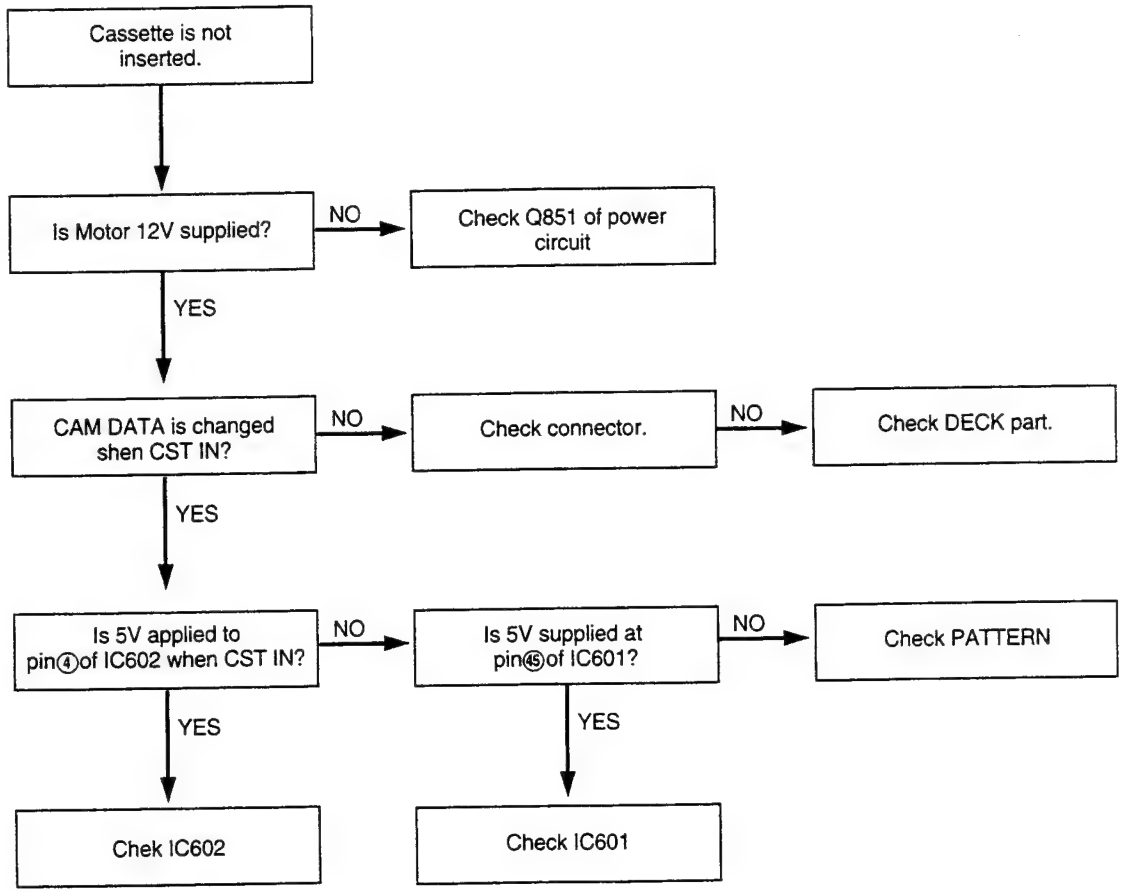
F.


Drum M/T and Capstan M/T rotate at regular speed. (In REC mode)
NO
Is C. Sync applied to pin㉝of IC601?
NO
Check C. Sync of VIDEO IC and Pattern
YES
Check Motor.

G.

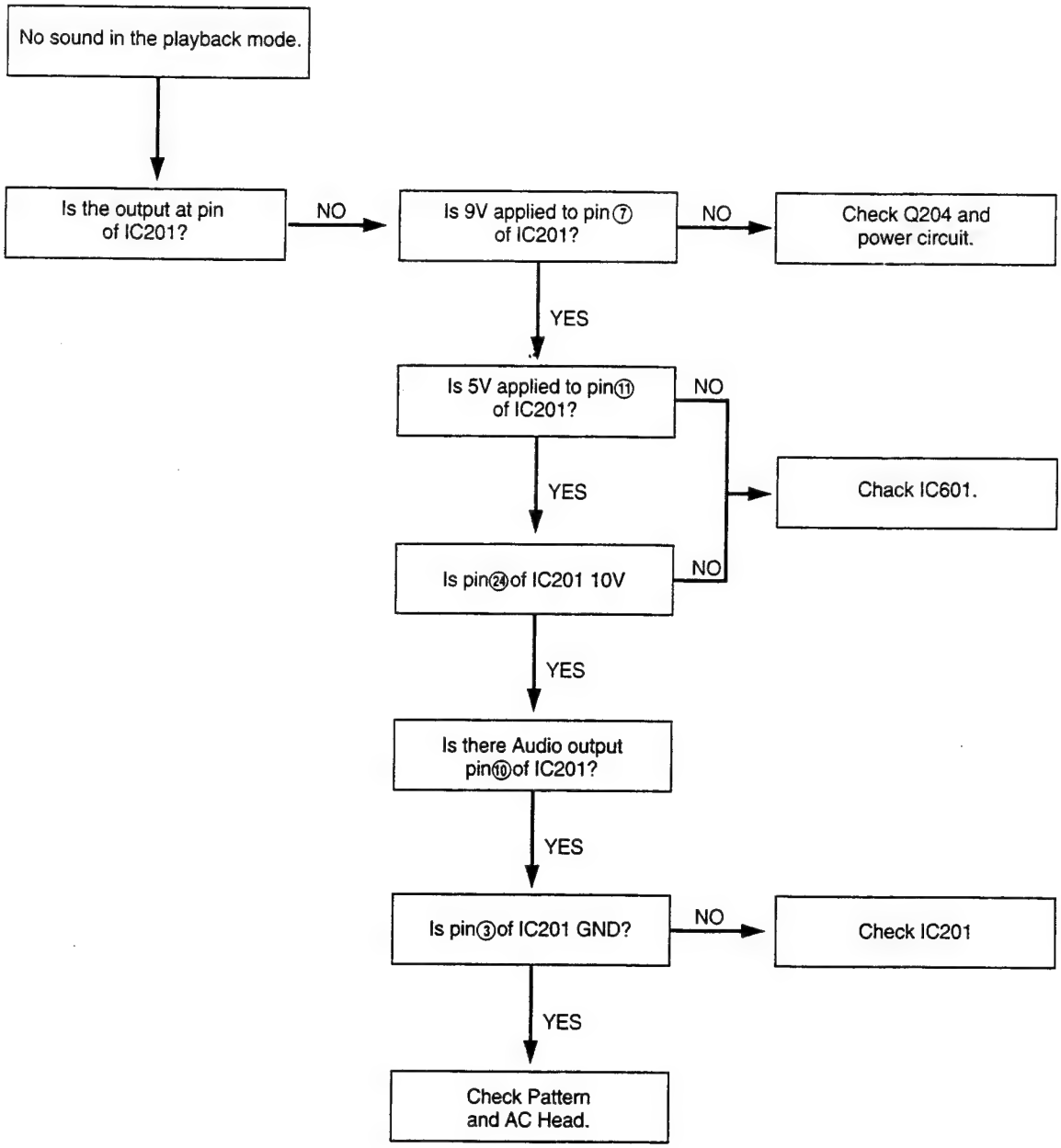

Emergency mode when plugging (Power cord)
Is EVER 5V supplied?
NO
Check power circuit.
YES
Does X601 crystal osciliate?
NO
Check IC601 and X601.
YES
Do S/DATA, CLK and RDY Signals of IC601 exchange with IC701
NO
Check IC701 when S.RDY Signal is supplied.
Check IC601 when S.RDY Signal is not supplied.
YES
Is CAM SW DATA Correct?
NO
Recheck connector and CAM SW contact.
YES
Check IC602.
YES
Check IC 601.

H.

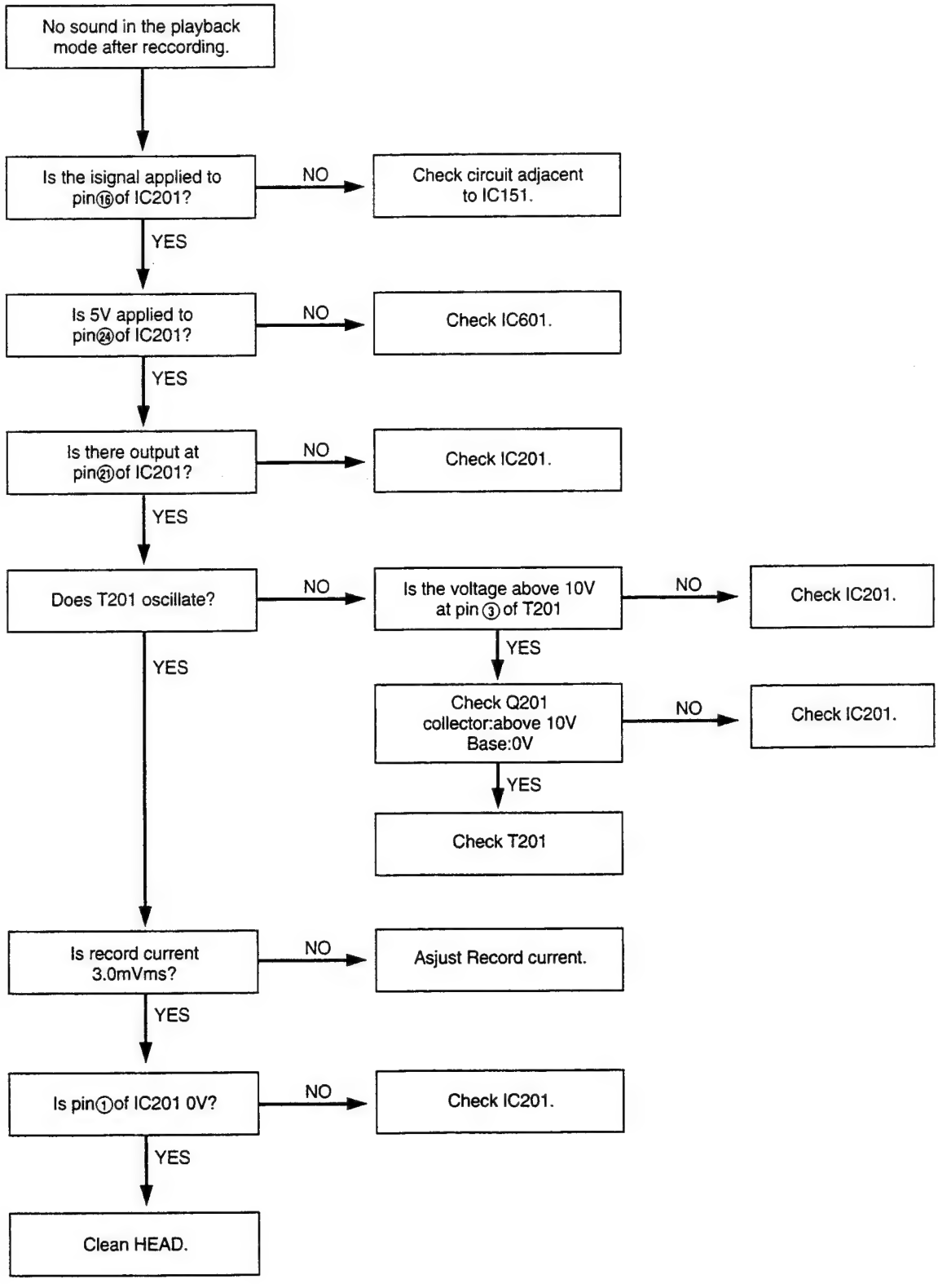

Cassette is not inserted.
Is Motor 12V supplied?
NO
Check Q851 of power circuit
YES
CAM DATA is changed shen CST IN?
NO
Check connector.
NO
Check DECK part.
YES
Is 5V applied to pin④of IC602 when CST IN?
NO
Is 5V supplied at pin⑮of IC601?
NO
Check PATTERN
YES
YES
Chek IC602
Check IC601

3-4. AUDIO CIRCUIT

A

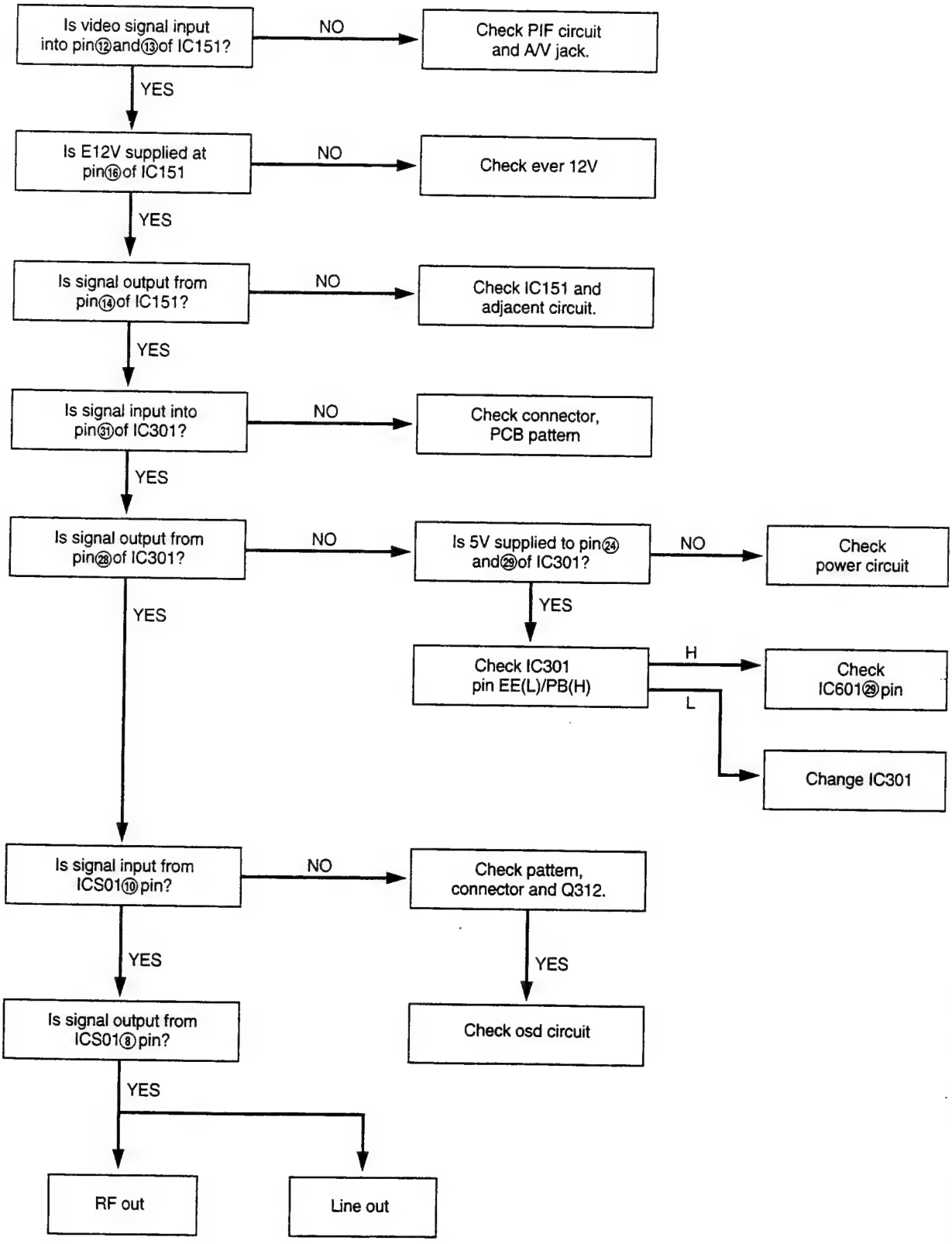


B

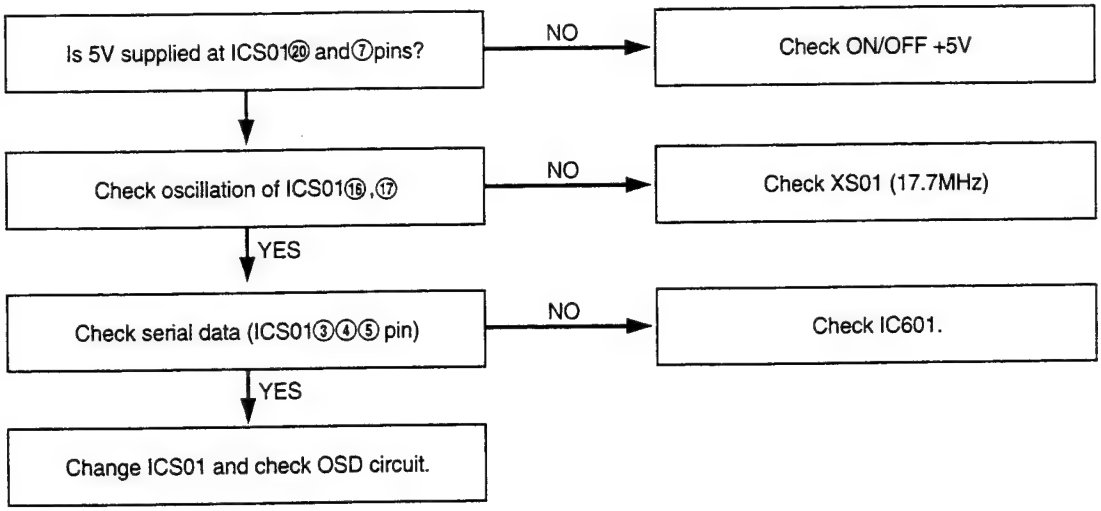

No sound in the playback mode after reccording.
Is the isignal applied to pin⑯of IC201?
NO
Check circuit adjacent to IC151.
YES
Is 5V applied to pin㉔of IC201?
NO
Check IC601.
YES
Is there output at pin㉑of IC201?
NO
Check IC201.
YES
Does T201 oscillate?
NO
Is the voltage above 10V at pin ③ of T201
NO
Check IC201.
YES
YES
Check Q201 collector:above 10V Base:0V
NO
Check IC201.
YES
Check T201
Is record current 3.0mVms?
NO
Asjust Record current.
YES
Is pin①of IC201 0V?
NO
Check IC201.
YES
Clean HEAD.

3-5. VIDEO CIRCUIT

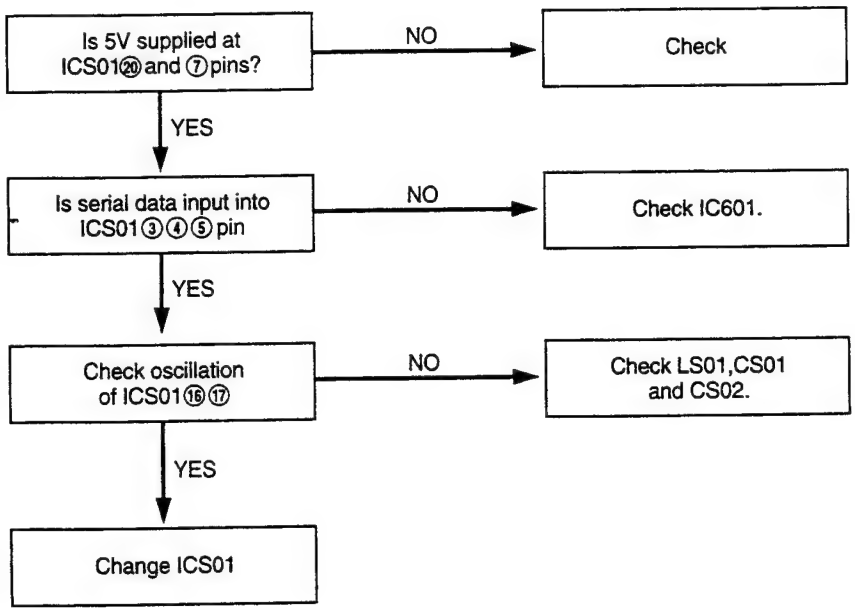
A.EE MODE Picture N.C



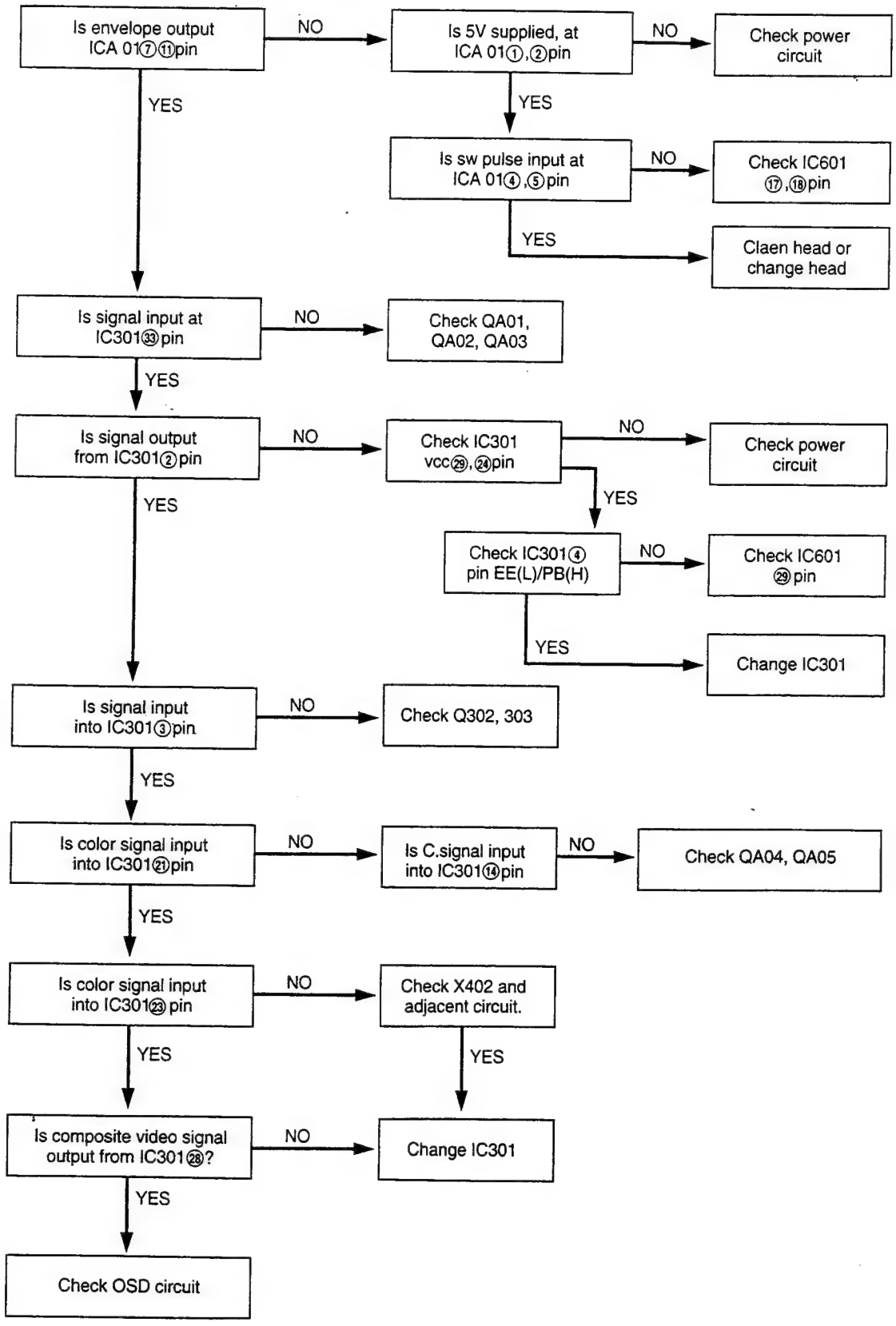
B . OSD Character N.G



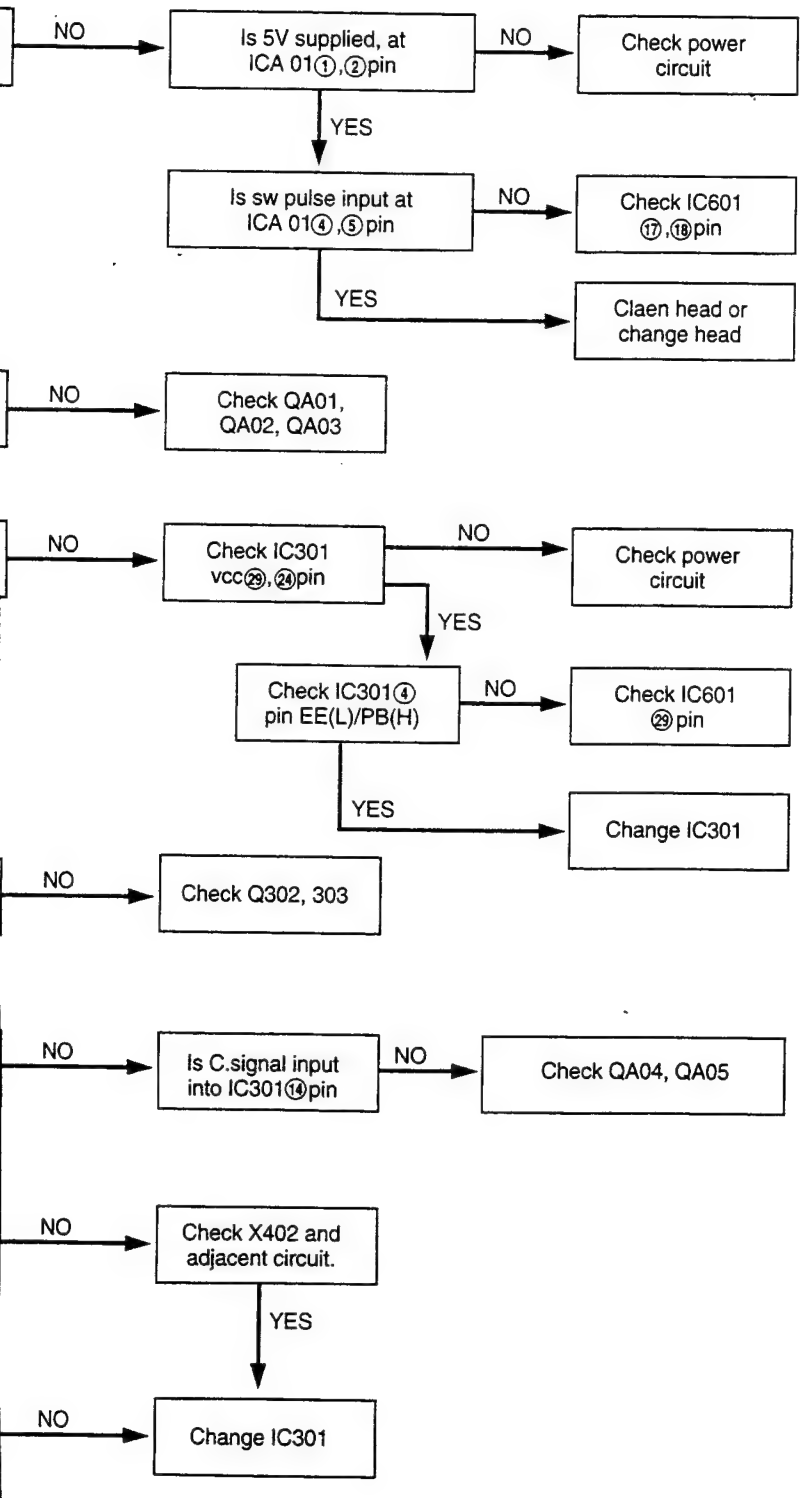
C. OSD Character N.G



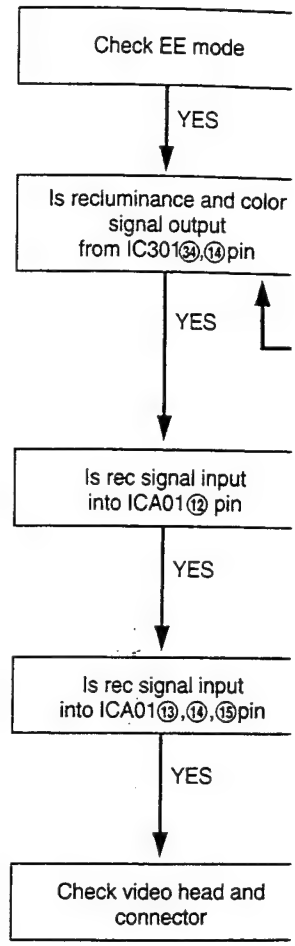
D. PB VIDEO SIGNAL N.G



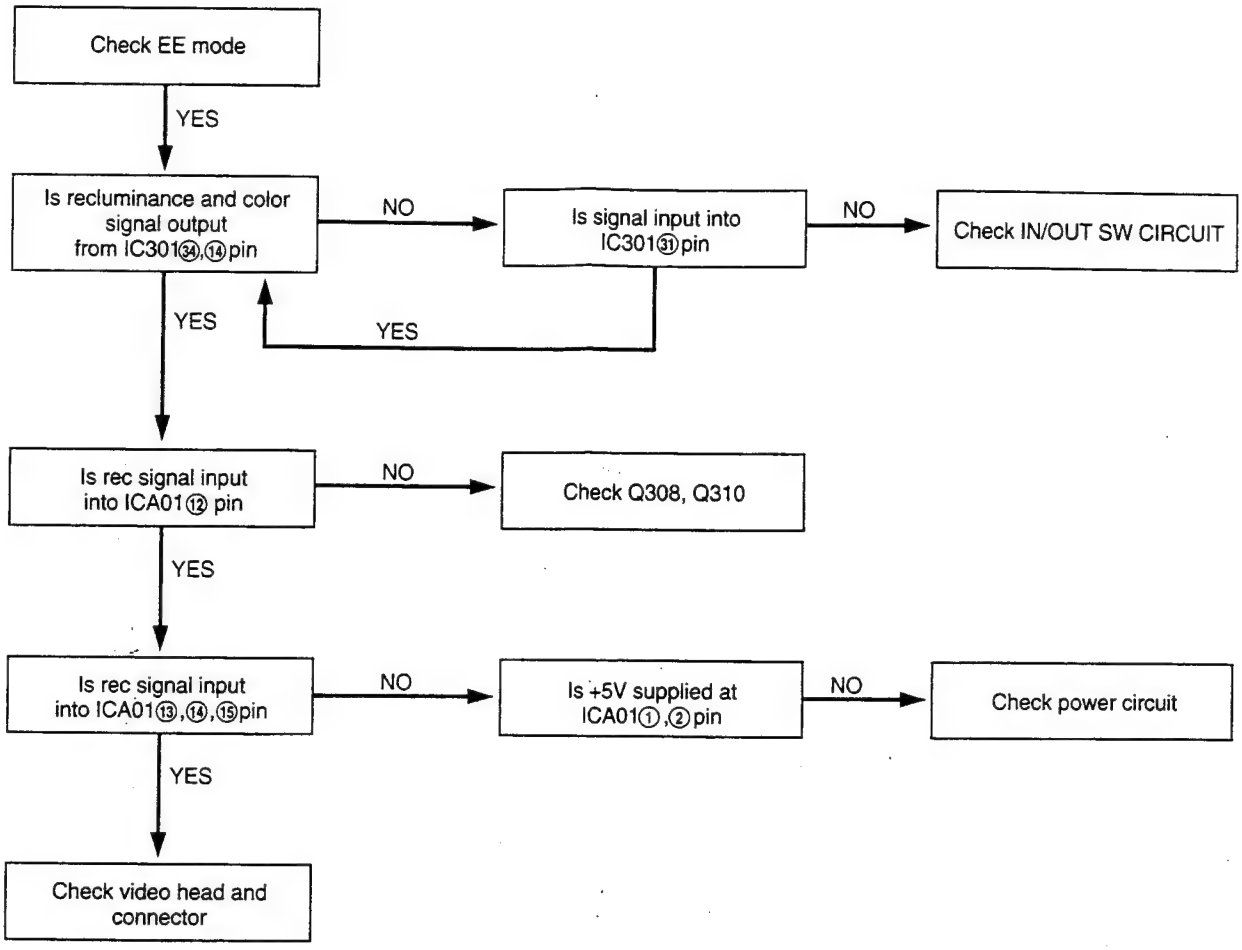
NAL N.G



E. REC SIGNAL N

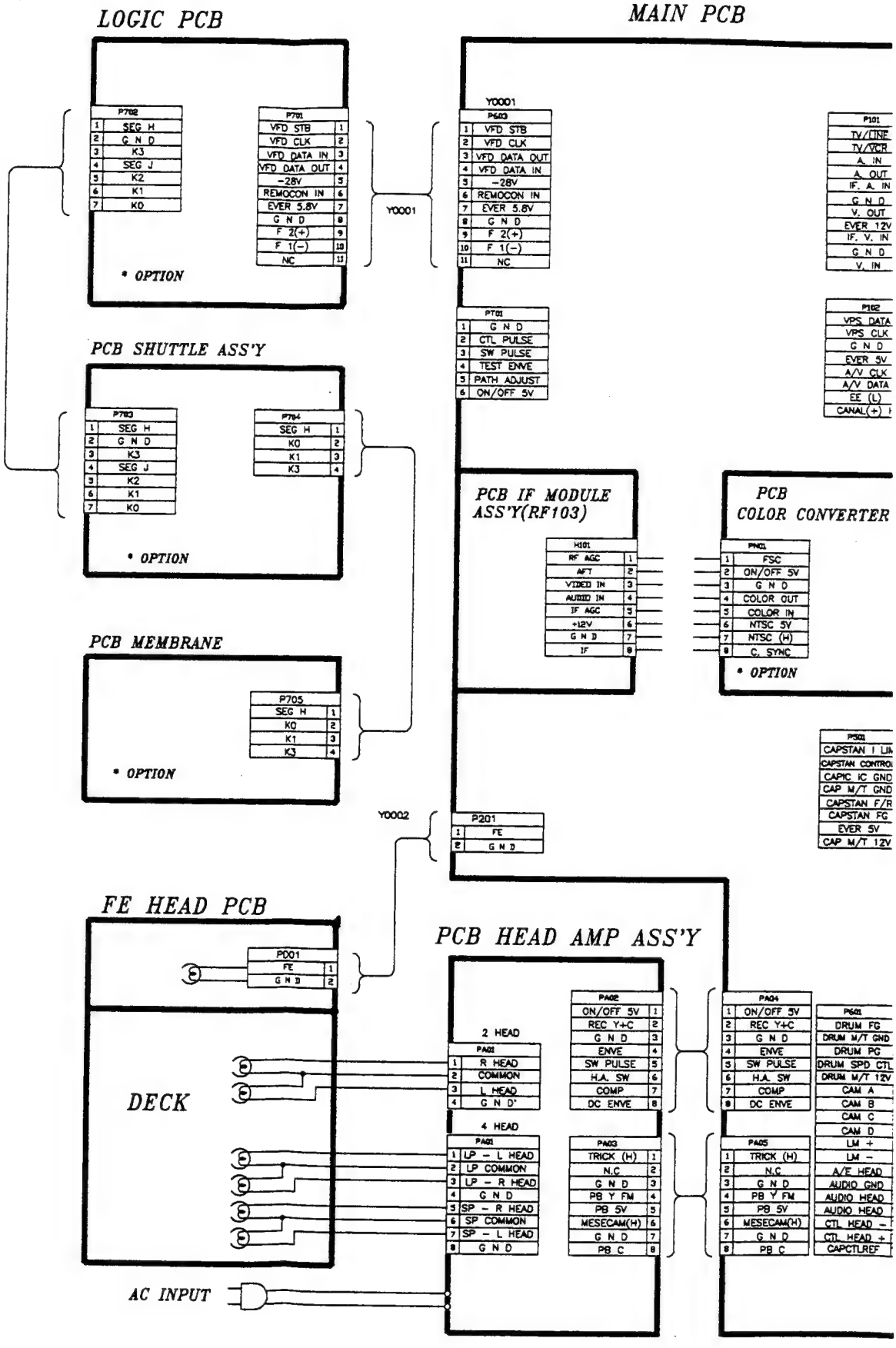


E. REC SIGNAL N.G



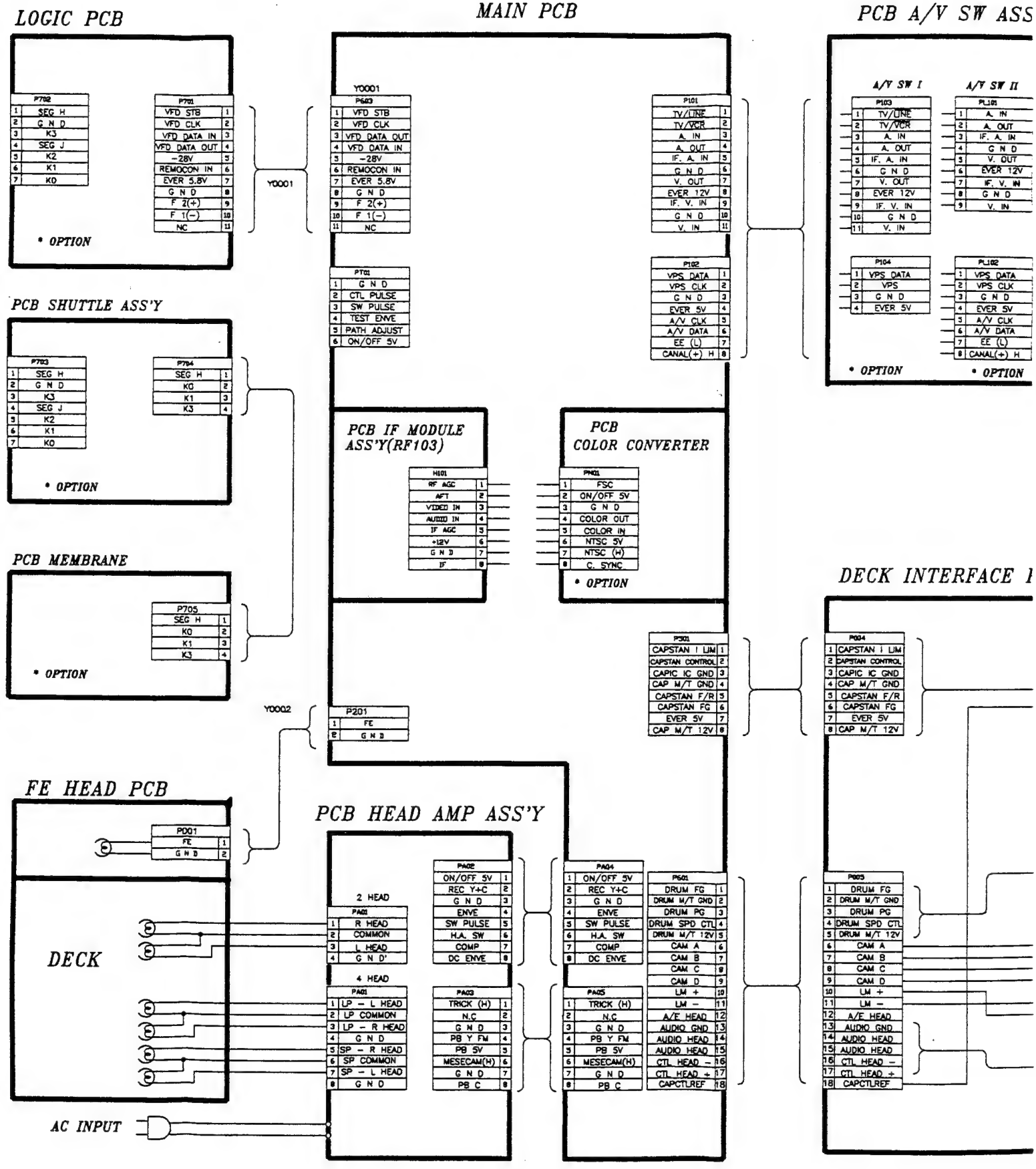
SECTION 4. CIRCUIT DIAGRAM

4-1. CONNECTION DIAGRAM CIRCUIT

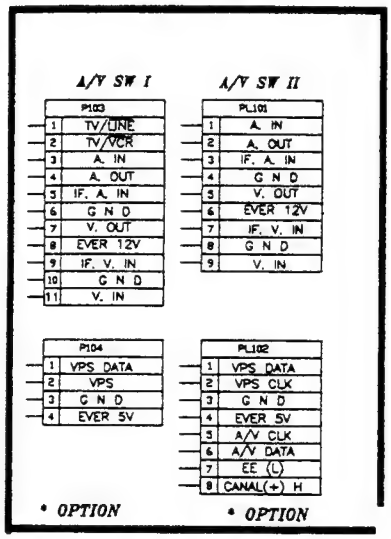


CUIT DIAGRAM

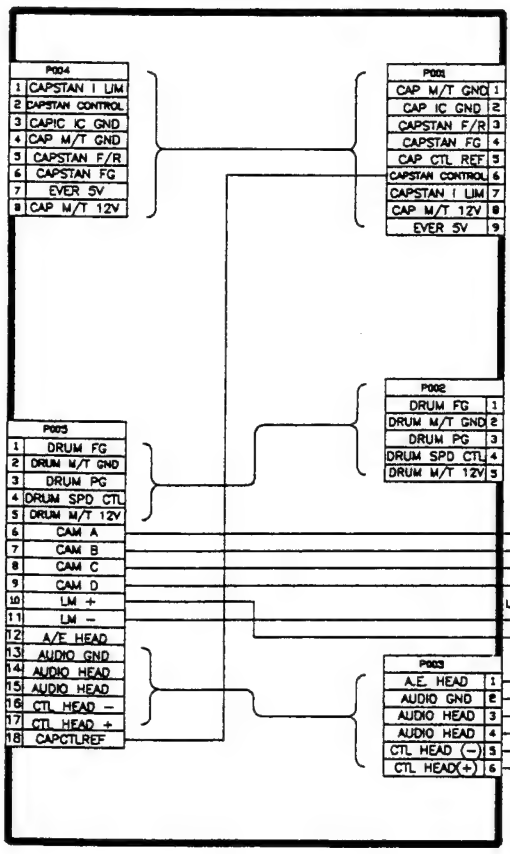
AGRAM CIRCUIT



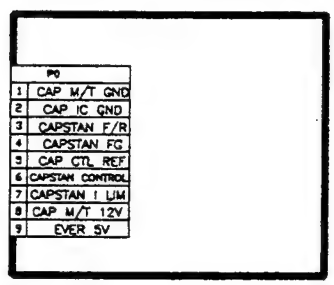
PCB A/V SW ASS'Y



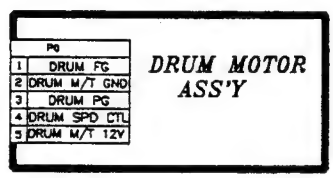
DECK INTERFACE PCB



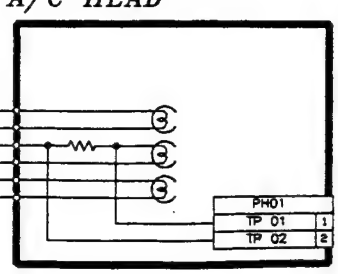
CAPSTAN MOTOR ASS'Y



DRUM MOTOR ASS'Y

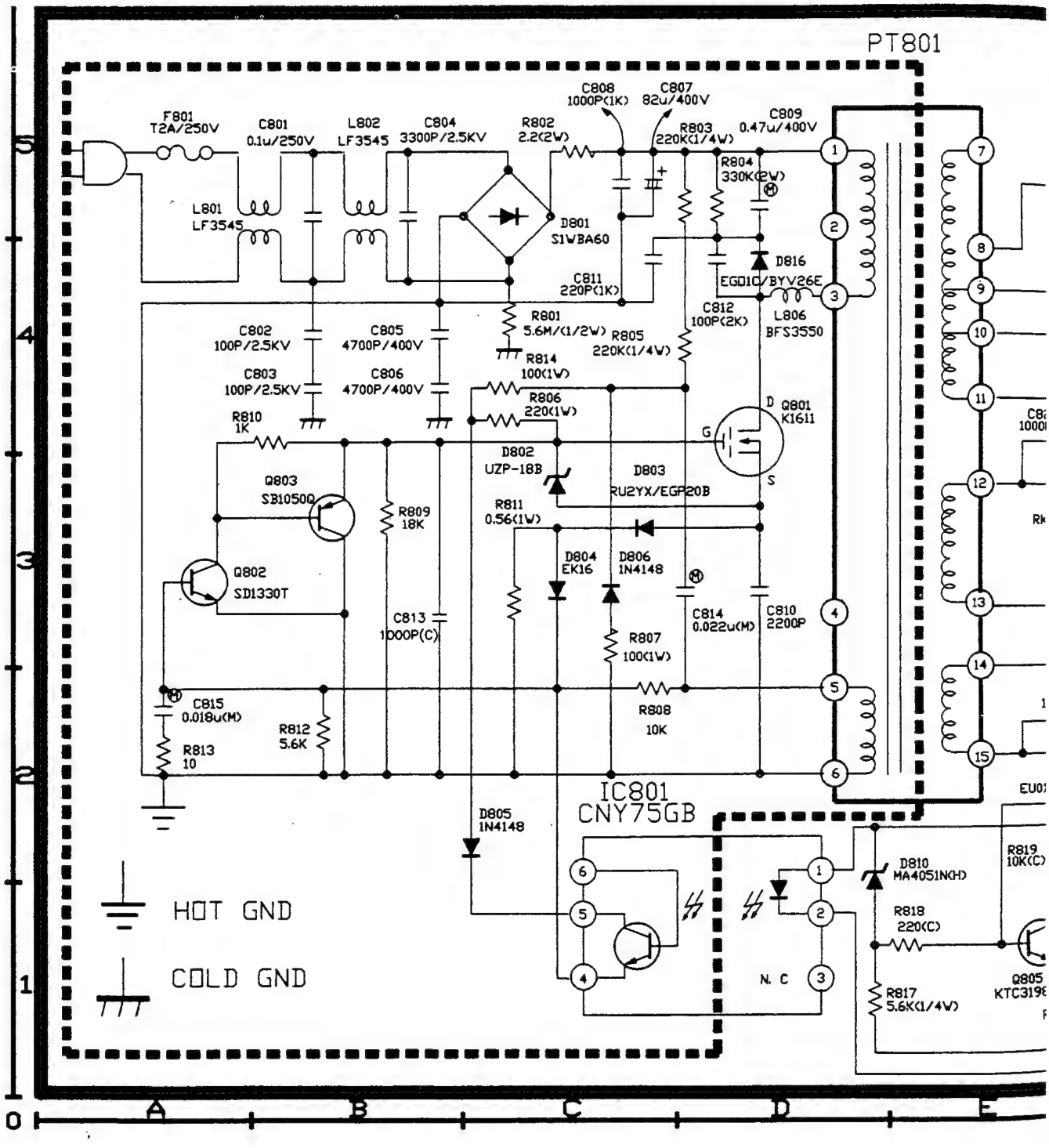


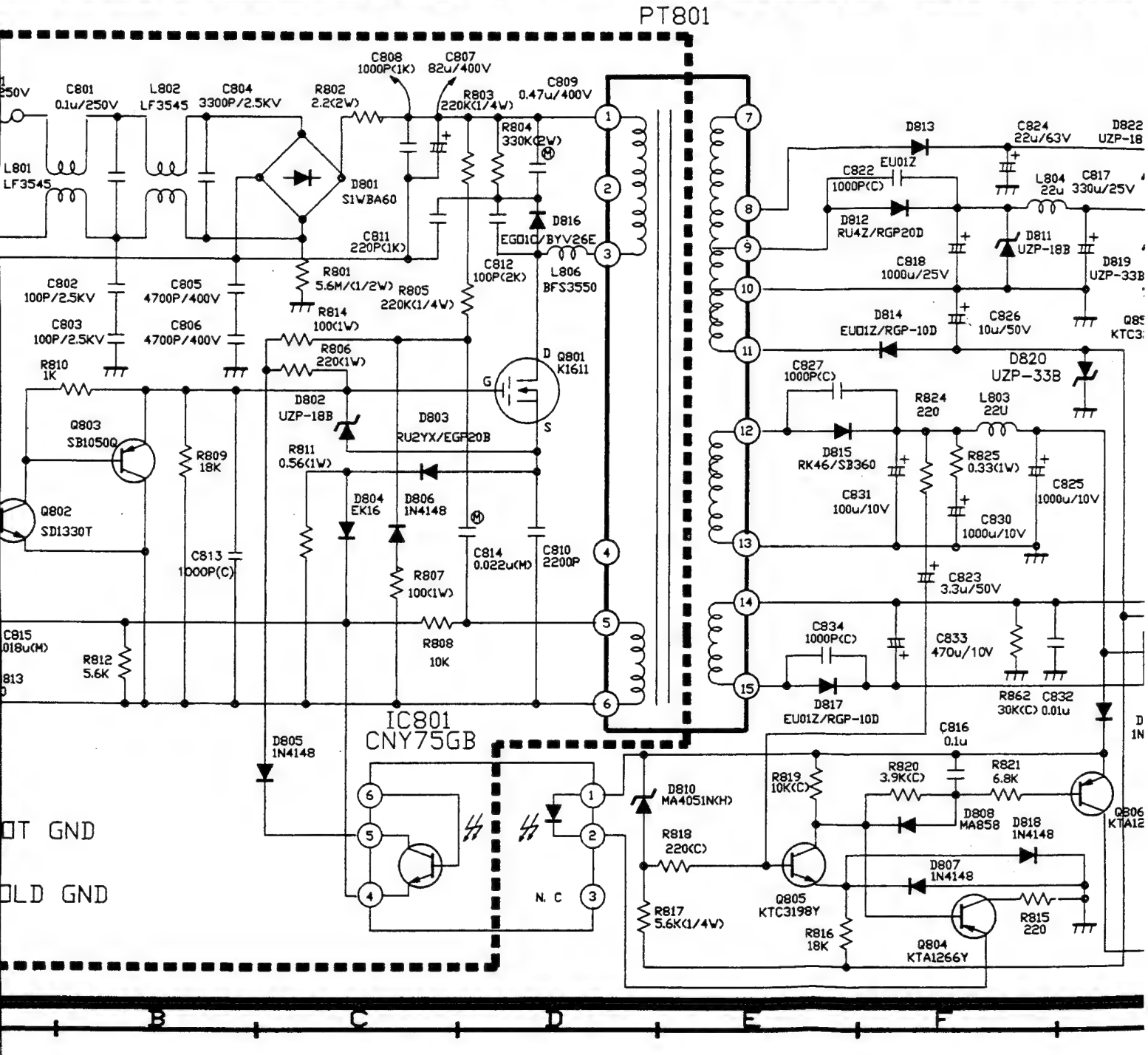
A/C HEAD

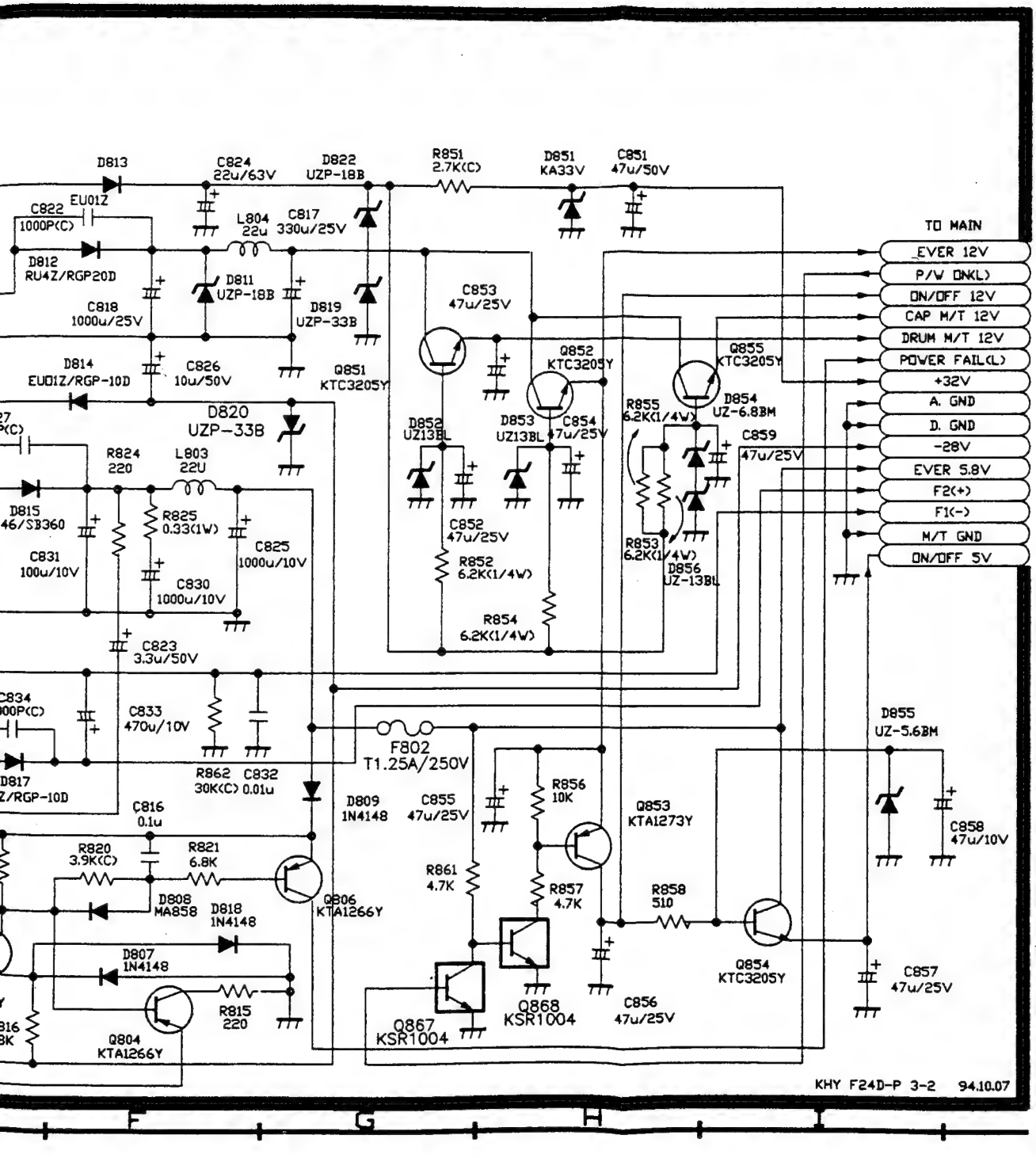


LEJ F24D-CB 6-1 94.10.07

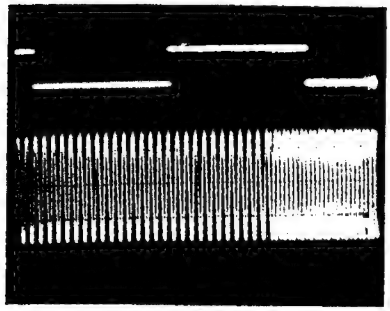
4-2. POWER CIRCUIT (SMPS)



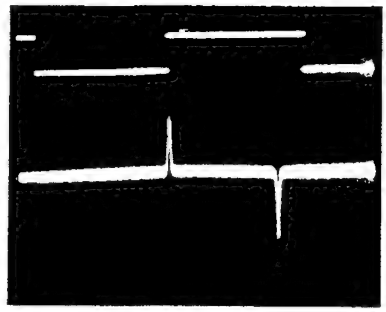

PT801
C808 1000P(1K)
C807 82u/400V
C809 0.47u/400V
C801 0.1u/250V
L802 LF3545
C804 3300P/2.5KV
R802 2.2(2W)
R803 220K(1/4W)
R804 330K(2W)
L801 LF3545
D801 S1WBA60
C811 220P(1K)
D816 EG01C/BYV26E
C812 100P(2K)
L806 BFS3550
C802 100P/2.5KV
C805 4700P/400V
C803 100P/2.5KV
C806 4700P/400V
R801 5.6M/(1/2W)
R805 220K(1/4W)
R814 100(1W)
R806 220(1W)
R810 1K
Q801 K1611
D802 UZP-18B
D803 RU2YX/EGP20B
Q803 SB1050Q
R809 18K
R811 0.56(1W)
Q802 SD1330T
D804 EK16
D806 1N4148
C813 1000P(C)
C814 0.022u(M)
C810 2200P
R807 100(1W)
C815 .018u(M)
R812 5.6K
R808 10K
D805 1N4148
IC801 CNY75GB
N. C
D813
C824 22u/63V
D822 UZP-18
C822 1000P(C)
EU01Z
L804 22u
C817 330u/25V
D812 RU4Z/RGP20D
D811 UZP-18B
C818 1000u/25V
D819 UZP-33B
D814 EU01Z/RGP-10D
C826 10u/50V
D820 UZP-33B
C827 1000P(C)
R824 220
L803 22U
D815 RK46/SB360
R825 0.33(1W)
C825 1000u/10V
C831 100u/10V
C830 1000u/10V
C823 3.3u/50V
C834 1000P(C)
C833 470u/10V
R862 30K(C)
C832 0.01u
D817 EU01Z/RGP-10D
C816 0.1u
R819 10K(C)
R820 3.9K(C)
R821 6.8K
D808 MA858
D818 1N4148
D810 MA4051NK(H)
R818 220(C)
D807 1N4148
Q805 KTC3198Y
R817 5.6K(1/4W)
R816 18K
R815 220
Q804 KTA1266Y
OT GND
OLD GND


D813
C824 22u/63V
D822 UZP-18B
R851 2.7K(C)
D851 KA33V
C851 47u/50V
EU01Z
C822 1000P(C)
L804 22u
C817 330u/25V
TO MAIN
D812 RU4Z/RGP20D
D811 UZP-18B
D819 UZP-33B
C853 47u/25V
EVER 12V
P/W ONK(L)
ON/OFF 12V
CAP M/T 12V
DRUM M/T 12V
POWER FAIL(L)
+32V
A. GND
D. GND
-28V
EVER 5.8V
F2(+)
F1(-)
M/T GND
ON/OFF 5V
C818 1000u/25V
D814 EU01Z/RGP-10D
C826 10u/50V
Q851 KTC3205Y
Q852 KTC3205Y
Q855 KTC3205Y
D820 UZP-33B
R855 6.2K(1/4W)
D854 UZ-6.8BM
D852 UZ13BL
D853 UZ13BL
C854 47u/25V
C859 47u/25V
R824 220
L803 22U
D815 46/SB360
R825 0.33(1W)
C825 1000u/10V
C831 100u/10V
C830 1000u/10V
C852 47u/25V
R852 6.2K(1/4W)
R853 6.2K(1/4W)
D856 UZ-13BL
R854 6.2K(1/4W)
C823 3.3u/50V
C834 00P(C)
C833 470u/10V
F802 T1.25A/250V
D855 UZ-5.6BM
D817 Z/RGP-10D
R862 30K(C)
C832 0.01u
D809 1N4148
C855 47u/25V
R856 10K
Q853 KTA1273Y
C816 0.1u
R820 3.9K(C)
R821 6.8K
R861 4.7K
R857 4.7K
R858 510
C858 47u/10V
D808 MA858
D818 1N4148
Q806 KTA1266Y
D807 1N4148
R815 220
Q867 KSR1004
Q868 KSR1004
C856 47u/25V
Q854 KTC3205Y
C857 47u/25V
Q804 KTA1266Y
KHY F24D-P 3-2 94.10.07
F
G
H
I

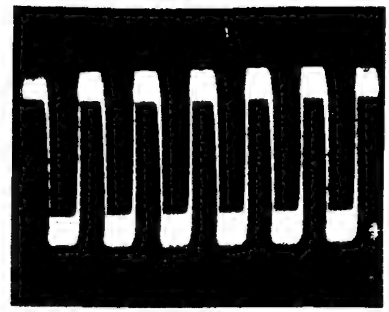
SERVO-LOGIC CIRCUIT WAVEFORM



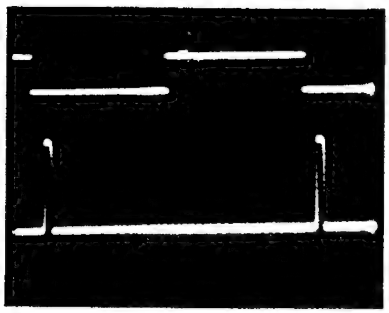
⑬ DRUM PG
(1V/5ms)



⑭ DRUM FG
(200mV/1ms)



⑮ CTL AMP OUT
(1V/5ms)

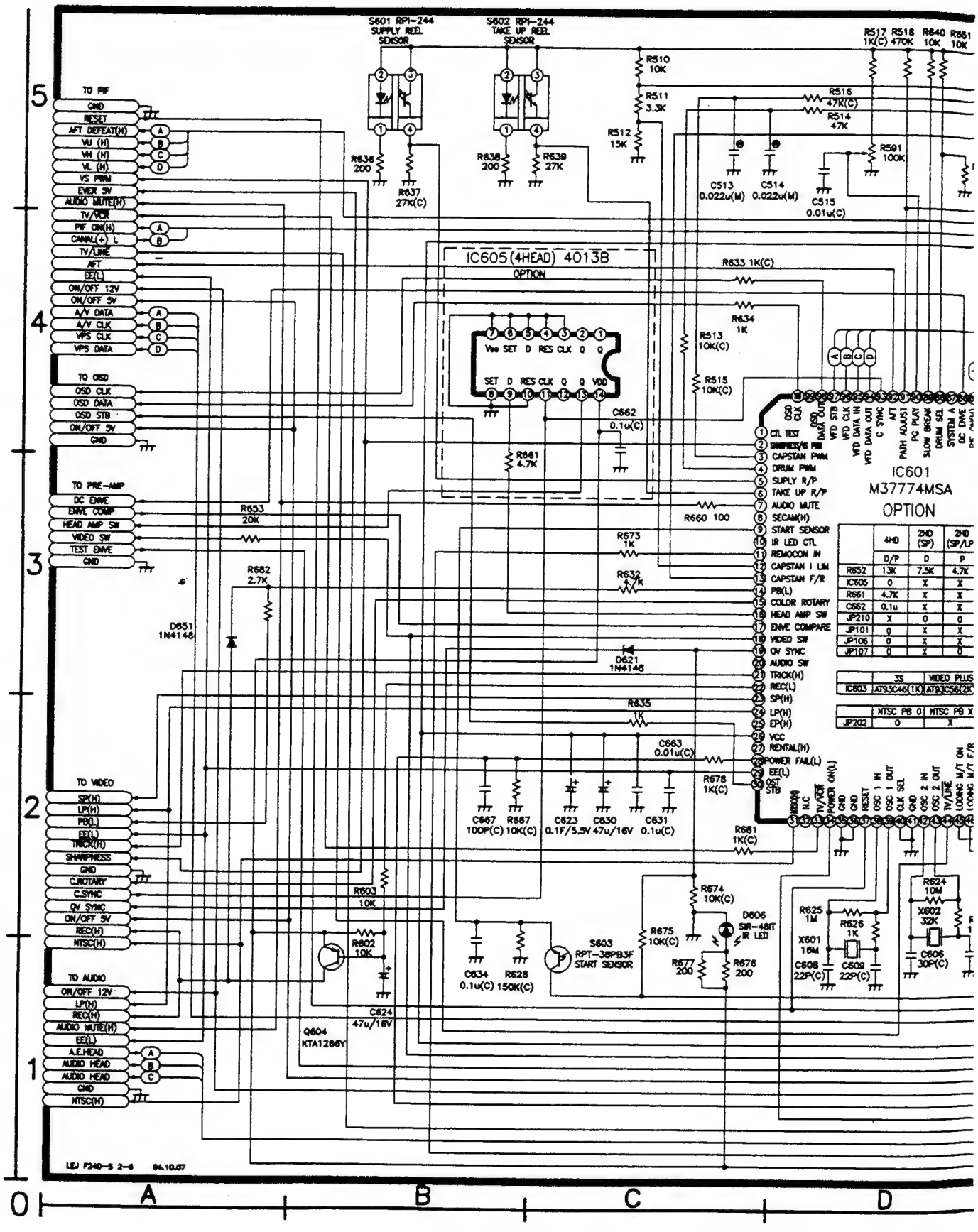


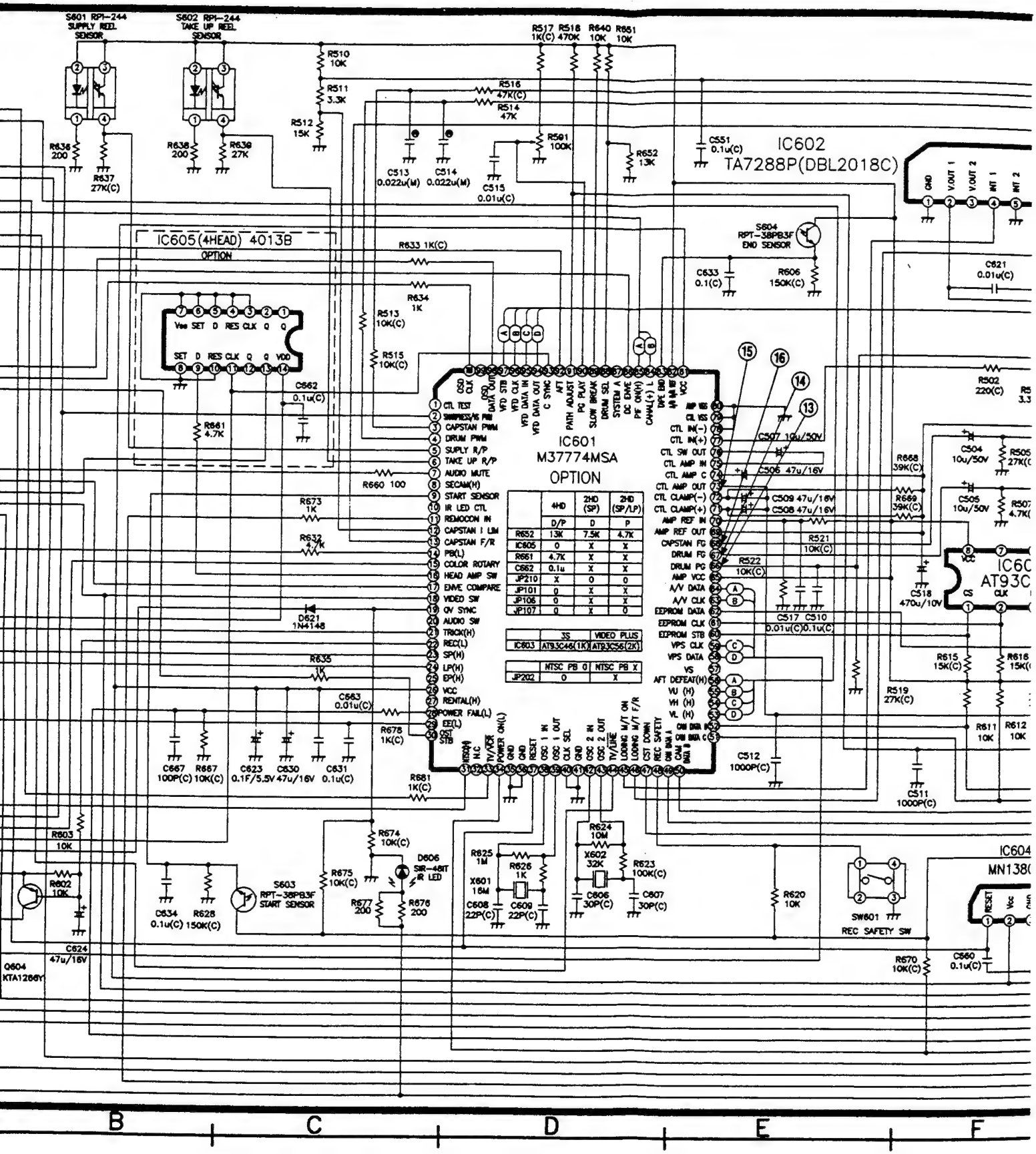
⑯ CAPSTAN FG
(1V/5ms)

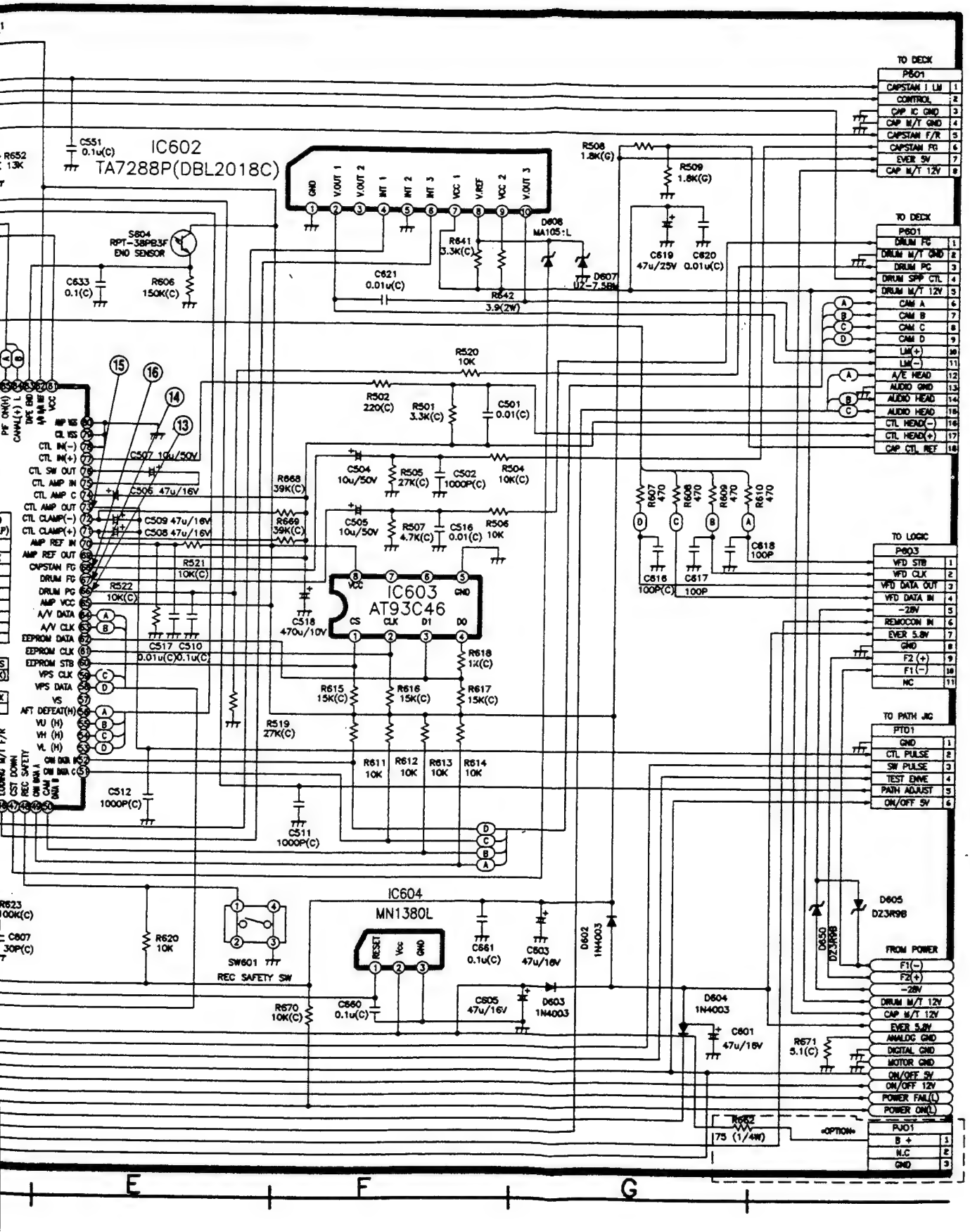
FM mecha CAM DATA

Mode / CAM	CAM A	CAM B	CAM C	CAM D
Egect	H	H	H	L
High-REW	H	H	L	L
STAND	H	H	L	H
IDLE	H	L	L	H
REV	H	L	H	H
SLOW	L	L	L	H
STOP/PLAY	L	H	H	H
FF/REW	L	L	H	H
FLOAT	H	H	H	H

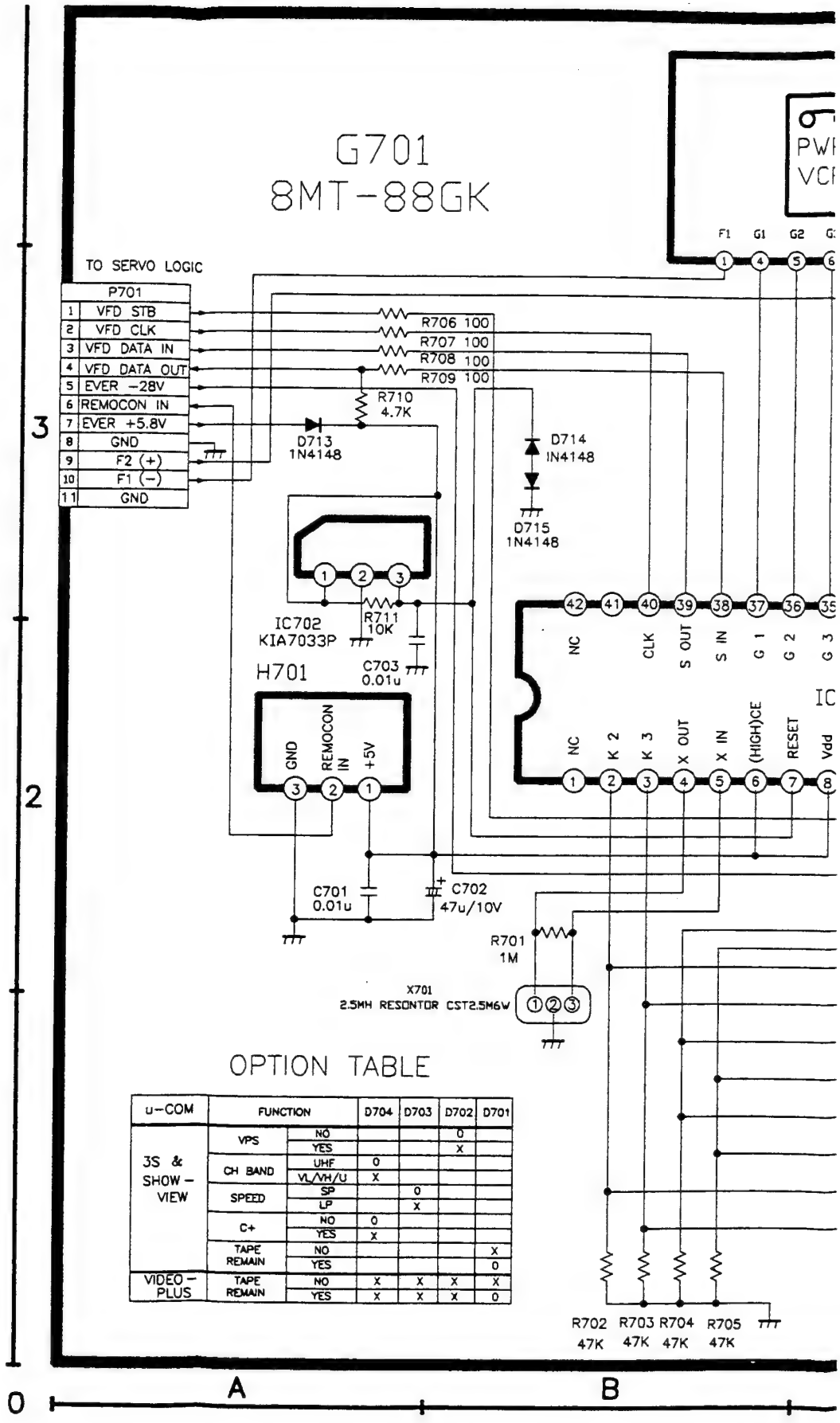
4-3. SERVO-LOGIC CIRCUIT




S601 RPI-244 SUPPLY REEL SENSOR
S602 RPI-244 TAKE UP REEL SENSOR
IC602 TA7288P(DBL2018C)
IC605(4HEAD) 4013B
OPTION
IC601 M37774MSA
OPTION
S604 RPT-38PB3F END SENSOR
S603 RPT-38PB3F START SENSOR
D606 SIR-48IT IR LED
SW601 REC SAFETY SW
Q604 KTA1266Y
IC604 MN138
IC6C AT93C
R517 R518 R640 R661
C551 0.1u(C)
C513 0.022u(M)
C514 0.022u(M)
C515 0.01u(C)
C621 0.01u(C)
C633 0.1(C)
R606 150K(C)
R502 220(C)
C504 10u/50V
C505 10u/50V
C507 10u/50V
C506 47u/16V
C509 47u/16V
C508 47u/16V
C517 C510
C518 470u/10V
C512 1000P(C)
C511 1000P(C)
C667 100P(C)
C623 0.1F/5.5V
C630 47u/16V
C631 0.1u(C)
C634 0.1u(C)
C624 47u/16V
C606 30P(C)
C607 30P(C)
C608 22P(C)
C609 22P(C)
C560 0.1u(C)
C662 0.1u(C)
C663 0.01u(C)
D621 1N4148
X601 16M
X602 32K
R660 100
R673 1K
R632 4.7K
R661 4.7K
R633 1K(C)
R634 1K
R513 10K(C)
R515 10K(C)
R635 1K
R678 1K(C)
R681 1K(C)
R674 10K(C)
R675 10K(C)
R676 200
R677 200
R603 10K
R602 10K
R628 150K(C)
R625 1M
R626 1K
R624 10M
R623 100K(C)
R620 10K
R668 39K(C)
R669 39K(C)
R521 10K(C)
R522 10K(C)
R519 27K(C)
R615 15K(C)
R616 15K(C)
R611 10K
R612 10K
R670 10K(C)
R510 10K
R511 3.3K
R512 15K
R516 47K(C)
R514 47K
R501 100K
R652 13K
R636 200
R638 200
R639 27K
R637 27K(C)
CTL TEST
SWPRES/S PW
CAPSTAN PWM
DRUM PWM
SUPLY R/P
TAKE UP R/P
AUDIO MUTE
SECAM(H)
START SENSOR
IR LED CTL
REMOCON IN
CAPSTAN I LIM
CAPSTAN F/R
PB(L)
COLOR ROTARY
HEAD AMP SW
ENVE COMPARE
VIDEO SW
OV SYNC
AUDIO SW
TRCK(H)
REC(L)
SP(H)
LP(H)
EP(H)
VCC
RENTAL(H)
POWER FAIL(L)
EE(L)
OSD CLK
OSD DATA
OSD OUT
VFD STB
VFD CLK
VFD DATA IN
VFD DATA OUT
C SYNC
AFT
PATH ADJUST
PG PLAY
SLOW BREAK
DRUM SEL
SYSTEM A
DC ENVE
PIF ON(H)
CAHAL(+) L
DPE BND
VCC
AMP VSS
CTL VSS
CTL IN(-)
CTL IN(+)
CTL SW OUT
CTL AMP IN
CTL AMP C
CTL AMP OUT
CTL CLAMP(-)
CTL CLAMP(+)
AMP REF IN
AMP REF OUT
CAPSTAN FG
DRUM FG
DRUM PG
AMP VCC
A/V DATA
A/V CLK
EEPROM DATA
EEPROM CLK
EEPROM STB
VPS CLK
VPS DATA
VS
AFT DEFEAT(H)
VU (H)
VH (H)
VL (H)
CAM DATA B
CAM DATA C
NSIGNAL
N.C
TV/VCR
POWER ON(L)
GND
GND
RESET
OSC 1 IN
OSC 1 OUT
CLK SEL
GND
OSC 2 IN
OSC 2 OUT
TV/LINE
LOADING M/T ON
LOADING M/T F/R
CST DOWN
REC SAFETY
CAM DATA A
CAM DATA B
4HD
2HD (SP)
2HD (SP/LP)
D/P
D
P
R652 13K 7.5K 4.7K
IC605 0 X X
R661 4.7K X X
C662 0.1u X X
JP210 X 0 0
JP101 0 X X
JP106 0 X X
JP107 0 X 0
JS
VIDEO PLUS
IC603 AT93C46(1K)
AT93C56(2K)
NTSC PB 0
NTSC PB X
JP202 0 X
GND
V.OUT 1
V.OUT 2
INT 1
INT 2
CS
CLK
RESET
Vcc


IC602
TA7288P(DBL2018C)
GND
V.OUT 1
V.OUT 2
INT 1
INT 2
INT 3
VCC 1
V.REF
VCC 2
V.OUT 3
IC603
AT93C46
CS
CLK
DI
DO
IC604
MN1380L
RESET
Vcc
GND
TO DECK
P601
CAPSTAN I LM
CONTROL
CAP IC GND
CAP M/T GND
CAPSTAN F/R
CAPSTAN FG
EVER 5V
CAP M/T 12V
DRUM FG
DRUM M/T GND
DRUM PG
DRUM SRP CTL
DRUM M/T 12V
CAM A
CAM B
CAM C
CAM D
LM(+)
LM(-)
A/E HEAD
AUDIO GND
AUDIO HEAD
AUDIO HEAD
CTL HEAD(-)
CTL HEAD(+)
CAP CTL REF
TO LOGIC
P603
VFD STB
VFD CLK
VFD DATA OUT
VFD DATA IN
-28V
REMOCON IN
EVER 5.8V
GND
F2(+)
F1(-)
NC
TO PATH JIG
PT01
GND
CTL PULSE
SW PULSE
TEST ENVE
PATH ADJUST
ON/OFF 5V
FROM POWER
F1(-)
F2(+)
-28V
DRUM M/T 12V
CAP M/T 12V
EVER 5.8V
ANALOG GND
DIGITAL GND
MOTOR GND
ON/OFF 5V
ON/OFF 12V
POWER FAIL(L)
POWER ON(L)
PJ01
B +
N.C
GND
«OPTION»
S804
RPT-38PB3F
END SENSOR
SW601
REC SAFETY SW
D605
DZ3R9B
D606
MA105-L
D607
D602
1N4003
D603
1N4003
D604
1N4003
C551 0.1u(C)
C633 0.1(C)
C621 0.01u(C)
C619 47u/25V
C620 0.01u(C)
C601 47u/16V
C660 0.1u(C)
C661 0.1u(C)
C503 47u/16V
C805 47u/16V
C504 10u/50V
C505 10u/50V
C506 47u/16V
C507 10u/50V
C508 47u/16V
C509 47u/16V
C510 0.1u(C)
C511 1000P(C)
C512 1000P(C)
C516 0.01(C)
C517 0.01u(C)
C518 470u/10V
C501 0.01(C)
C502 1000P(C)
C615 100P(C)
C616 100P
C617 100P
C618 100P
R606 150K(C)
R641 3.3K(C)
R642 3.9(2W)
R508 1.8K(G)
R509 1.8K(G)
R520 10K
R502 220(C)
R501 3.3K(C)
R504 10K(C)
R505 27K(C)
R506 10K
R507 4.7K(C)
R668 39K(C)
R669 39K(C)
R521 10K(C)
R522 10K(C)
R519 27K(C)
R607 470
R608 470
R609 470
R610 470
R611 10K
R612 10K
R613 10K
R614 10K
R615 15K(C)
R616 15K(C)
R617 15K(C)
R618 1K(C)
R620 10K
R623 100K(C)
R670 10K(C)
R671 5.1(C)
R682 75 (1/4W)
E
F
G

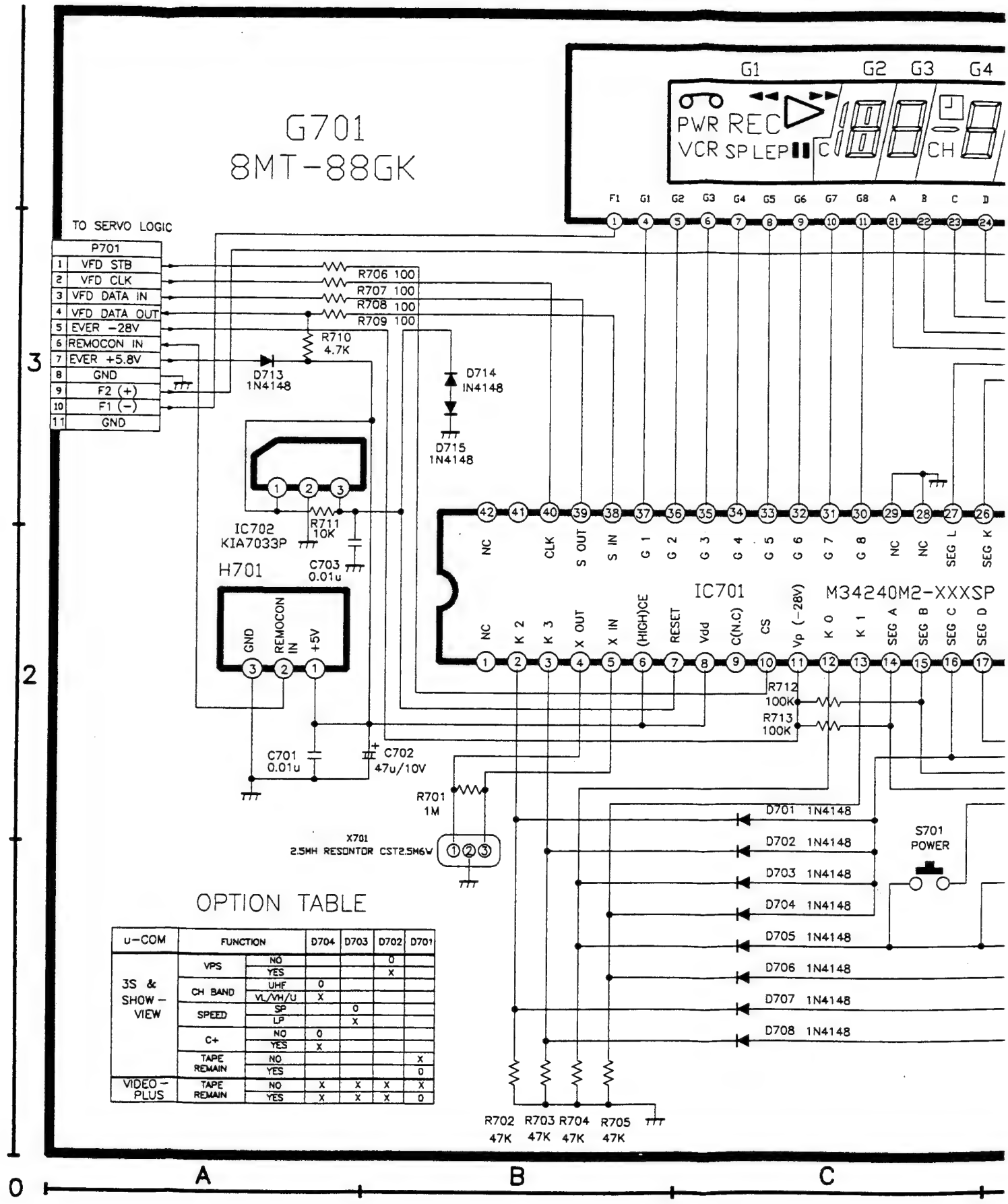
4-4. LOGIC CIRCUIT



OPTION TABLE

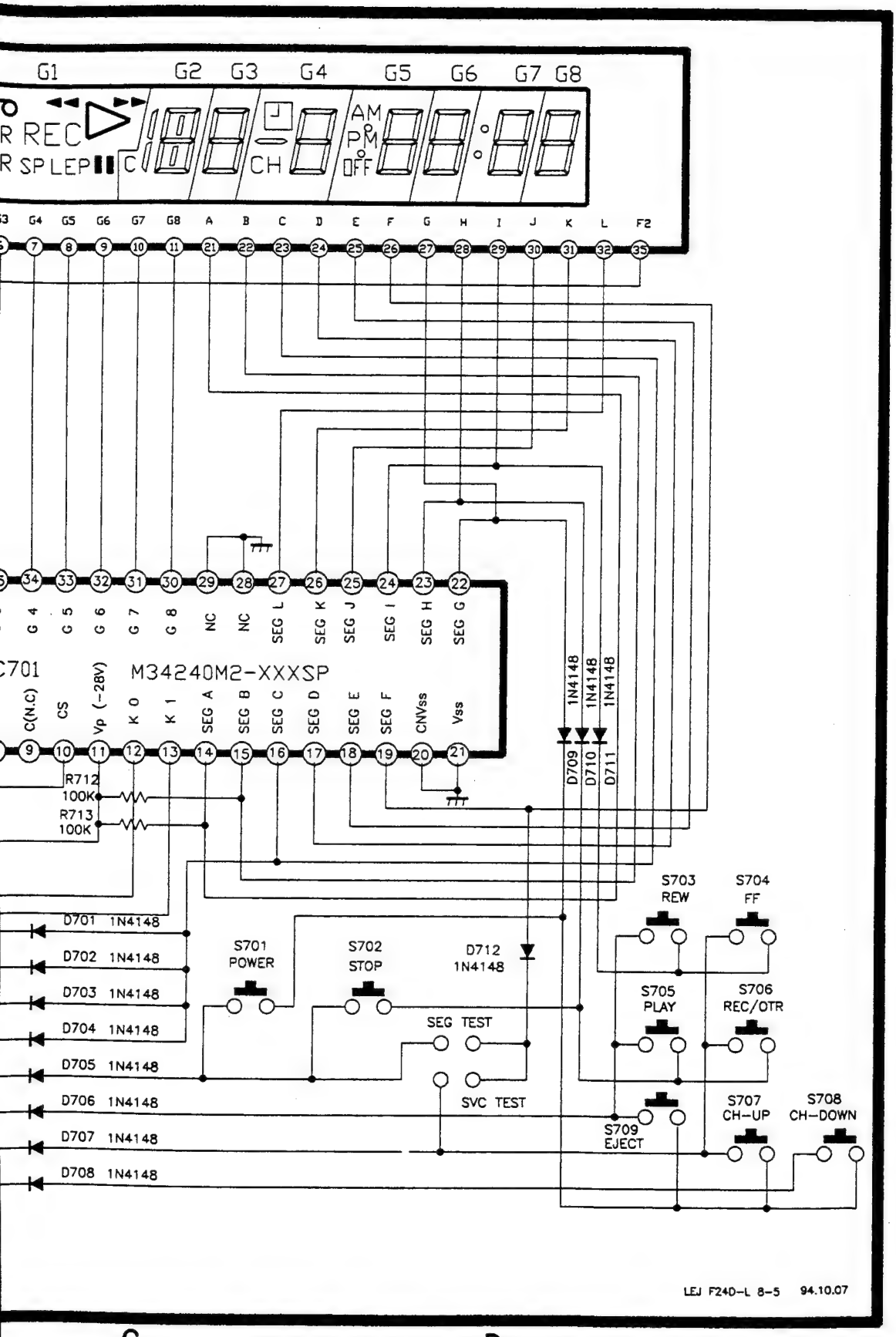
u-COM	FUNCTION		D704	D703	D702	D701
3S & SHOW-VIEW	VPS	NO			0	
		YES			X	
	CH BAND	UHF	0			
		VL/VH/U	X			
	SPEED	SP		0		
		LP		X		
	C+	NO	0			
		YES	X			
	TAPE REMAIN	NO				X
		YES				0
VIDEO-PLUS	TAPE REMAIN	NO	X	X	X	X
		YES	X	X	X	0

T



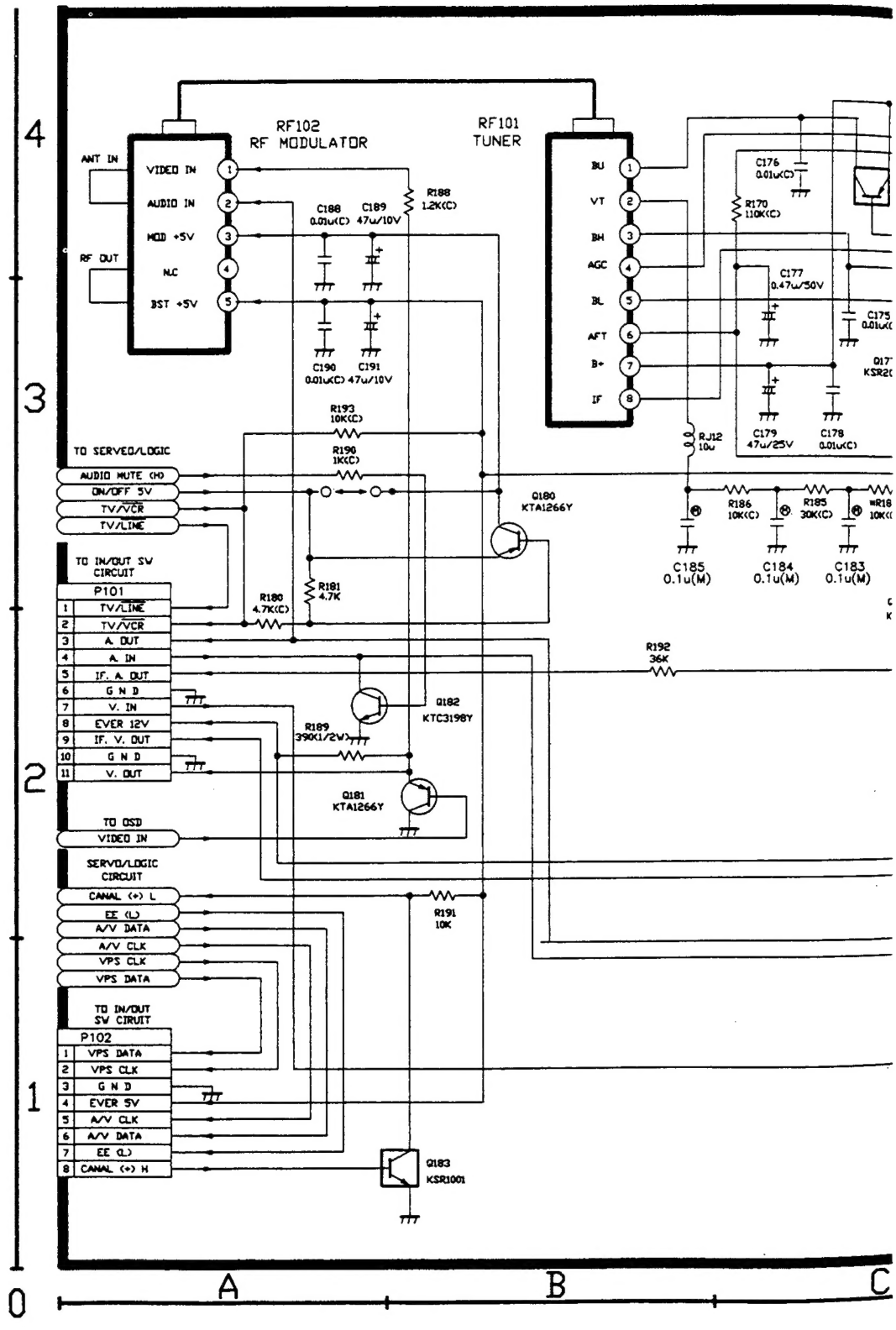
OPTION TABLE

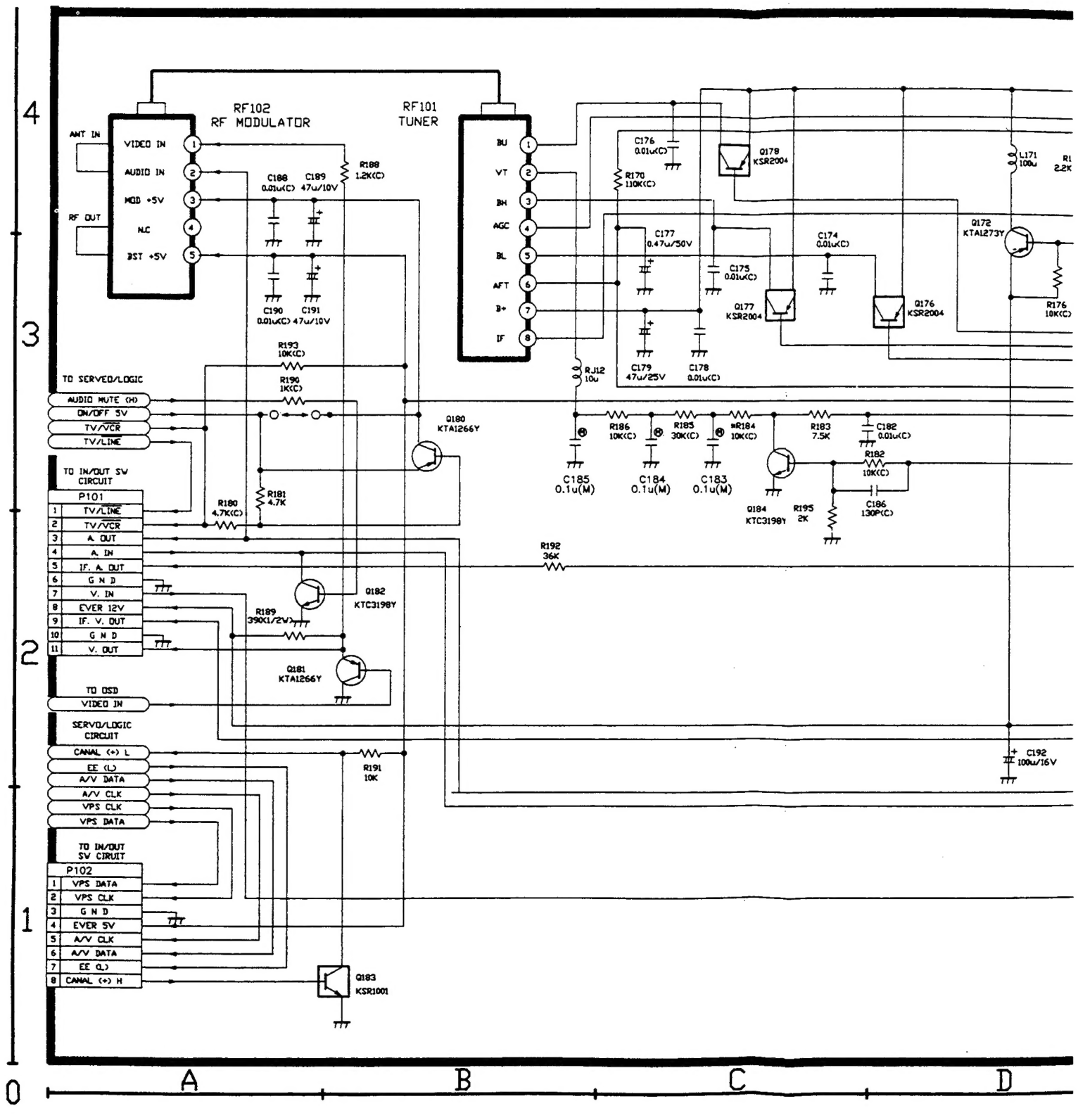
u-COM	FUNCTION		D704	D703	D702	D701
3S & SHOW-VIEW	VPS	NO			0	
		YES			X	
	CH BAND	UHF	0			
		VL/VH/U	X			
	SPEED	SP		0		
		LP		X		
	C+	NO	0			
		YES	X			
	TAPE REMAIN	NO				X
		YES				0
VIDEO-PLUS	TAPE REMAIN	NO	X	X	X	X
		YES	X	X	X	0

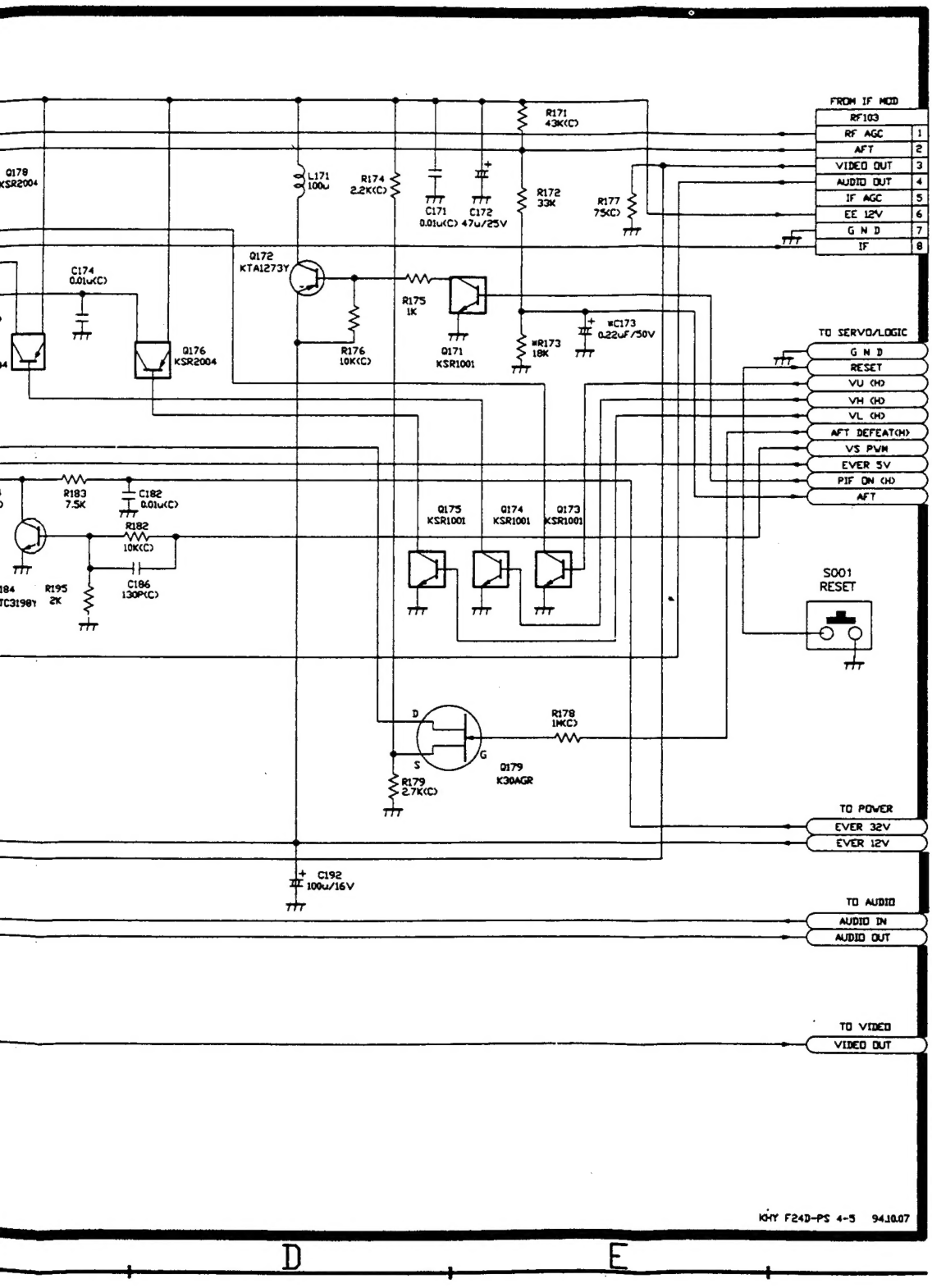

G1 G2 G3 G4 G5 G6 G7 G8
REC
SP LEP
CH
AM
PM
OFF
M34240M2-XXXSP
C701
C(N.C)
CS
Vp (-28V)
K 0
K 1
SEG A
SEG B
SEG C
SEG D
SEG E
SEG F
CNVss
Vss
SEG L
SEG K
SEG J
SEG I
SEG H
SEG G
NC
NC
R712 100K
R713 100K
D709 1N4148
D710 1N4148
D711 1N4148
D701 1N4148
D702 1N4148
D703 1N4148
D704 1N4148
D705 1N4148
D706 1N4148
D707 1N4148
D708 1N4148
D712 1N4148
S701 POWER
S702 STOP
SEG TEST
SVC TEST
S703 REW
S704 FF
S705 PLAY
S706 REC/OTR
S707 CH-UP
S708 CH-DOWN
S709 EJECT
LEJ F240-L 8-5 94.10.07

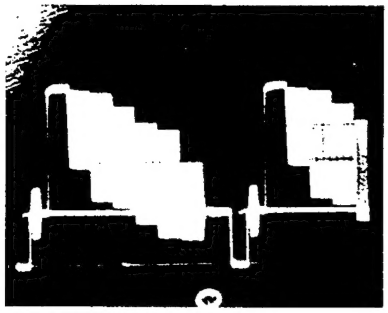
C D

4-7. PIF CIRCUIT

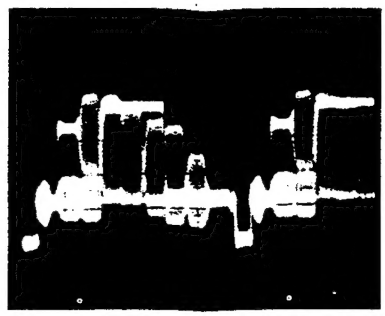



RF102
RF MODULATOR
RF101
TUNER
ANT IN
RF OUT
VIDEO IN
AUDIO IN
MOD +5V
NC
BST +5V
BU
VT
BH
AGC
BL
AFT
B+
IF
R188 1.2K(C)
C188 0.01u(C)
C189 47u/10V
C190 0.01u(C)
C191 47u/10V
C176 0.01u(C)
R170 110K(C)
Q179 KSR2004
L171 100u
C177 0.47u/50V
C175 0.01u(C)
C174 0.01u(C)
Q172 KTA1273Y
Q177 KSR2004
Q176 KSR2004
R176 10K(C)
C179 47u/25V
C178 0.01u(C)
RJ12 10u
R193 10K(C)
R190 1K(C)
TO SERVO/LOGIC
AUDIO MUTE (H)
ON/OFF 5V
TV/VCR
TV/LINE
Q180 KTA1266Y
R186 10K(C)
R185 30K(C)
R184 10K(C)
R183 7.5K
C182 0.01u(C)
R182 10K(C)
C185 0.1u(M)
C184 0.1u(M)
C183 0.1u(M)
Q184 KTC3198Y
R195 2K
C186 130P(C)
TO IN/OUT SW CIRCUIT
P101
1 TV/LINE
2 TV/VCR
3 A. OUT
4 A. IN
5 IF. A. OUT
6 G N D
7 V. IN
8 EVER 12V
9 IF. V. OUT
10 G N D
11 V. OUT
R180 4.7K(C)
R181 4.7K
R192 36K
Q182 KTC3198Y
R189 390K1/2W
Q181 KTA1266Y
TO OSD
VIDEO IN
SERVO/LOGIC CIRCUIT
CANAL (+) L
EE (L)
A/V DATA
A/V CLK
VPS CLK
VPS DATA
R191 10K
C192 100u/16V
TO IN/OUT SW CIRUIT
P102
1 VPS DATA
2 VPS CLK
3 G N D
4 EVER 5V
5 A/V CLK
6 A/V DATA
7 EE (L)
8 CANAL (+) H
Q183 KSR1001
4
3
2
1
0
A
B
C
D

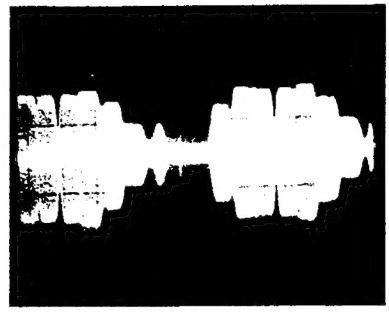

FROM IF MOD
RF103
RF AGC 1
AFT 2
VIDEO OUT 3
AUDIO OUT 4
IF AGC 5
EE 12V 6
G N D 7
IF 8
R171 43K(C)
L171 100u
R174 2.2K(C)
C171 0.01u(C)
C172 47u/25V
R172 33K
R177 75(C)
Q178 KSR2004
Q172 KTA1273Y
C174 0.01u(C)
R175 1K
R176 10K(C)
Q176 KSR2004
Q171 KSR1001
WR173 18K
WC173 0.22uF/50V
TO SERVO/LOGIC
G N D
RESET
VU (H)
VH (H)
VL (H)
AFT DEFEAT(H)
VS PWM
EVER 5V
PIF ON (H)
AFT
R183 7.5K
C182 0.01u(C)
R182 10K(C)
C186 130P(C)
R195 2K
Q175 KSR1001
Q174 KSR1001
Q173 KSR1001
S001 RESET
D
G
S
R178 1MK(C)
R179 2.7K(C)
Q179 K30AGR
TO POWER
EVER 32V
EVER 12V
C192 100u/16V
TO AUDIO
AUDIO IN
AUDIO OUT
TO VIDEO
VIDEO OUT
KHY F24D-PS 4-5 94.10.07
D
E



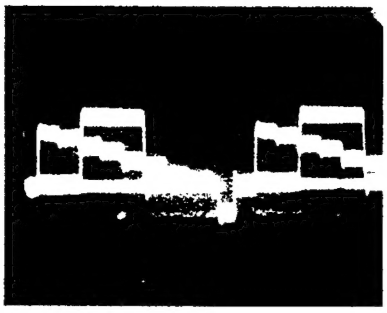
① VIDEO INPUT SIGNAL
(50mV/10ms)



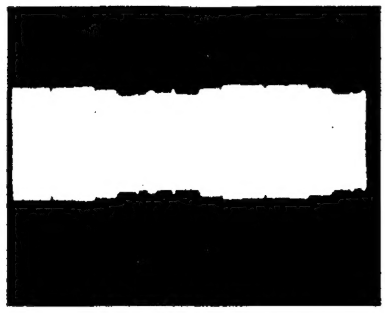
② VIDEO OUTPUT SIGNAL
(50mV/10ms)



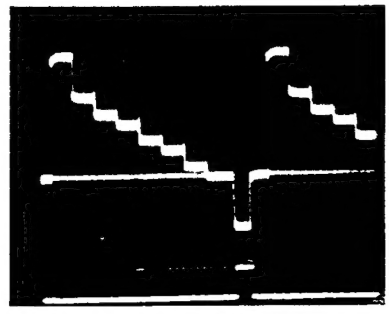
③ COLOR BURST SIGNAL
(50mV/10ms)



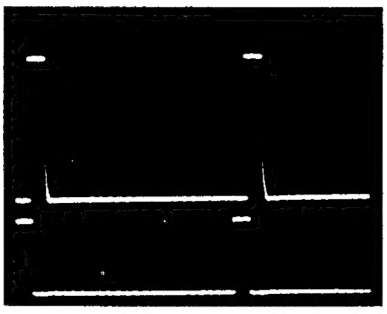
④ AFTER CCD Y
(100mV/10ms)



⑤ TJ399 REC Y+C SIGNAL
(100mV/10ms)

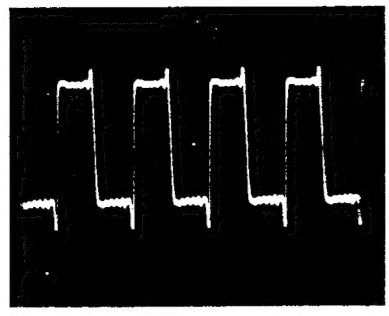


⑥ CLAMP INPUT SIGNAL
(100mV/10ms)

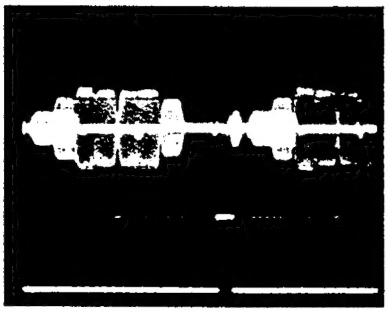


⑦ BGP OUTPUT TERMINAL
(1V/10ms)

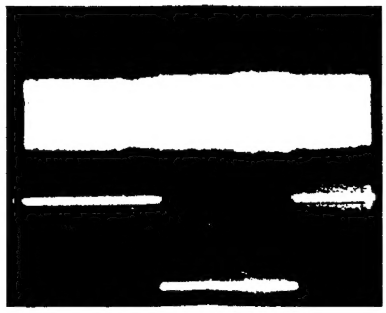
⑧ TJ313 C.SYNC
(1V/10ms)



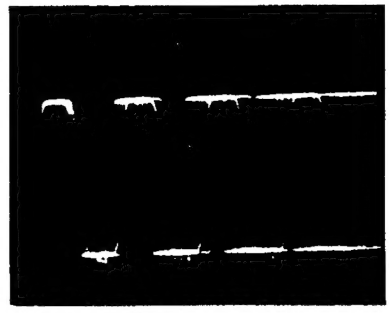
⑨ PB. FSC
(200mV/0.1μs)



⑩ PLAYBACK COLOR
(100mV/10μs)



⑪ TEST ENVE
PLAYBACK (SP MODE)



⑫ TJ391 MODULATION FM
SIGNAL (20mV/50ms)